

51419



Class

10a

N. F. 1020 33

Presented by
Dr. John R. Roberts

John B. Roberts
1874

Manuscript Notes of
The Medical Lectures
of Dr. Chapman.

from the Library of Dr. Wilmer Worthington.

ALMERE
J. H. A. D.

17 2 7
5 7 6
3 7 6
40

Physiology

Generation; By it we understand the process by which our species is propagated; It is one of the greatest mysteries in the human economy. The ovaries are the seat of Conception, each of these organs is filled with a number of small vesicles which contain a pellucid fluid, after coition the fluid in one or more of these vesicles become changed, it loses its transparency and obtains an opaque and redish hue. after sometime it bursts and is seized upon by the fimbriated extremities of the fallopian tubes. The impregnation of the ovum is owing to the peculiar action of the male semen, The semen does not enter the cavity of the uterus much less does it enter the ovaria. Those who differ from us in opinion have mostly insisted that the semen is injected into the uterus by the penis, but many circumstances render it impossible for this to take place, grapped as it is by the vagina its ejaculatory muscles become crippled in their energies and are rendered passive, the spissitude and tenacity of the semen is another hindrance, the semen cannot immediately enter the cavity of the uterus for several reasons. 1st Because the os tinea is not placed in the immediate axis of the vagina and opposite the orifice of the urethra. 2nd The os tinea is most generally closed sometimes by a membrane. 3rd The canal leading to the uterus is not large than to admit a common sized probe and generally filled with mucus. 4th The uterus itself is so shallow that its sides are in close contact, impregnation has taken place during prolapsus uteri, during relaxation of the supporting ligaments of the uterus and even during complete retroversion of the uterus, conception may take place



if the semen is but deposited within the vulva - By Haller it is stated
that he detected in one instance only the semen in the uterus of a sheep
45 minutes after coition, but this a solitary exception and we may
suppose that such a result was necessary for the maintenance of
such a favourite hypothesis - The fallopian tubes do not change their
positions to grasp the ovum until it is properly fecundated in the
ovaria, they convey nothing from the uterus, that they are not subserv-
ient to this purpose is very distinctly indicated by the peculiarity of
their structure they commence with an aperture extremely min-
ute and the canal gradually enlarges and finally terminates in a co-
lled and patulous mouth, It has been proven by Haughton that
after a portion of the fallopian tubes had been cut out, the cut
ends joined and healed so that the canal at that part was en-
tirely obliterated, the ovaria nevertheless became impregnated pro-
ving that the semen is not carried from the uterus to the ovaria, the
semen and ova are not miscible with water - Those of Frogs have
been found on the surface of the water in which they lived, the ac-
tive properties of extraneous matter is entirely destroyed before it
enters the circulation, It must be properly assimilated and di-
gested before it can enter the circulation, foreign substances
have produced instant death when injected into the blood-vessels.

By a very ingenious speculatist of our own country it is said that
the semen is absorbed by a set of vessels for the purpose in the va-
gina and carried to the ovaria, but no such vessels are found. There
are two sets of lymphatics in the vagina, one terminating in the pa-
ra-urethral the other in the inguinal glands, there are no absorbents for such
purposes terminating in the ovaria, absorption is one of the provi-
sions of nature to prevent foreign matter from entering the circulation

147

413

unchanged, they are the out-posts and centinels of the system. The 9
hypothesis above mentioned is therefore vague and unfounded. It re-
sults from the preceding Lecture that the semen is not applied to the
ovaria, How can it then be accounted for? It is by sympathy or con-
sents of parts. Haughton was the first who adopted and illustrated
this theory; It is certainly the most plausible; It best comports with
the settled and well ascertained Law of the animal economy; Haigh-
ton did not fully satisfy us by his investigations, It therefore remains
for me to continue them. we must then first enquire what is Sympa-
thy? By some writers it is divided into several Kinds as Contiguous,
Continuous, remote &c. &c. There are some organs more eminently end-
owed with the power of sympathy than others as the brain, the stomach
the uterus &c. Van Helmont said it is owing to the uterus that women
is what she is. It has been asserted that the ova have been fecunda-
ted even when out of the body by the application of the seminal flu-
id, we ought however to be careful in adopting such theories. By S-
ympathy we conceive that vegetables are endowed with the fecun-
dating power. In birds the Vagina is sealed up under the spine &
far from the external orifice, the male can only deposit the semi-
nal Liquid just within the vulva and nevertheless the ova be-
come fecundated. It is objected also to this theory that it is impos-
sible to conceive how the ova can become fecundated by sympathy
alone, how the child can bear resemblance to the father in features,
shape &c. the points which are not now explained on this subject
probably never will be. The Humoral Pathology maintains that ev-
ery article is carried into the circulation and applied by the blood-
vessels to the proper parts. As preliminary I shall remark that when
ever any thing is applied to the body an action is excited which the

and the same is the case with the other two. The first is the
 first of the three, and the second is the second of the three. The third is the third of the three, and the fourth is the fourth of the three. The fifth is the fifth of the three, and the sixth is the sixth of the three. The seventh is the seventh of the three, and the eighth is the eighth of the three. The ninth is the ninth of the three, and the tenth is the tenth of the three. The eleventh is the eleventh of the three, and the twelfth is the twelfth of the three. The thirteenth is the thirteenth of the three, and the fourteenth is the fourteenth of the three. The fifteenth is the fifteenth of the three, and the sixteenth is the sixteenth of the three. The seventeenth is the seventeenth of the three, and the eighteenth is the eighteenth of the three. The nineteenth is the nineteenth of the three, and the twentieth is the twentieth of the three. The twenty-first is the twenty-first of the three, and the twenty-second is the twenty-second of the three. The twenty-third is the twenty-third of the three, and the twenty-fourth is the twenty-fourth of the three. The twenty-fifth is the twenty-fifth of the three, and the twenty-sixth is the twenty-sixth of the three. The twenty-seventh is the twenty-seventh of the three, and the twenty-eighth is the twenty-eighth of the three. The twenty-ninth is the twenty-ninth of the three, and the thirtieth is the thirtieth of the three. The thirty-first is the thirty-first of the three, and the thirty-second is the thirty-second of the three. The thirty-third is the thirty-third of the three, and the thirty-fourth is the thirty-fourth of the three. The thirty-fifth is the thirty-fifth of the three, and the thirty-sixth is the thirty-sixth of the three. The thirty-seventh is the thirty-seventh of the three, and the thirty-eighth is the thirty-eighth of the three. The thirty-ninth is the thirty-ninth of the three, and the fortieth is the fortieth of the three. The forty-first is the forty-first of the three, and the forty-second is the forty-second of the three. The forty-third is the forty-third of the three, and the forty-fourth is the forty-fourth of the three. The forty-fifth is the forty-fifth of the three, and the forty-sixth is the forty-sixth of the three. The forty-seventh is the forty-seventh of the three, and the forty-eighth is the forty-eighth of the three. The forty-ninth is the forty-ninth of the three, and the fiftieth is the fiftieth of the three. The fifty-first is the fifty-first of the three, and the fifty-second is the fifty-second of the three. The fifty-third is the fifty-third of the three, and the fifty-fourth is the fifty-fourth of the three. The fifty-fifth is the fifty-fifth of the three, and the fifty-sixth is the fifty-sixth of the three. The fifty-seventh is the fifty-seventh of the three, and the fifty-eighth is the fifty-eighth of the three. The fifty-ninth is the fifty-ninth of the three, and the sixtieth is the sixtieth of the three. The sixty-first is the sixty-first of the three, and the sixty-second is the sixty-second of the three. The sixty-third is the sixty-third of the three, and the sixty-fourth is the sixty-fourth of the three. The sixty-fifth is the sixty-fifth of the three, and the sixty-sixth is the sixty-sixth of the three. The sixty-seventh is the sixty-seventh of the three, and the sixty-eighth is the sixty-eighth of the three. The sixty-ninth is the sixty-ninth of the three, and the seventieth is the seventieth of the three. The seventy-first is the seventy-first of the three, and the seventy-second is the seventy-second of the three. The seventy-third is the seventy-third of the three, and the seventy-fourth is the seventy-fourth of the three. The seventy-fifth is the seventy-fifth of the three, and the seventy-sixth is the seventy-sixth of the three. The seventy-seventh is the seventy-seventh of the three, and the seventy-eighth is the seventy-eighth of the three. The seventy-ninth is the seventy-ninth of the three, and the eightieth is the eightieth of the three. The eighty-first is the eighty-first of the three, and the eighty-second is the eighty-second of the three. The eighty-third is the eighty-third of the three, and the eighty-fourth is the eighty-fourth of the three. The eighty-fifth is the eighty-fifth of the three, and the eighty-sixth is the eighty-sixth of the three. The eighty-seventh is the eighty-seventh of the three, and the eighty-eighth is the eighty-eighth of the three. The eighty-ninth is the eighty-ninth of the three, and the ninetieth is the ninetieth of the three. The ninety-first is the ninety-first of the three, and the ninety-second is the ninety-second of the three. The ninety-third is the ninety-third of the three, and the ninety-fourth is the ninety-fourth of the three. The ninety-fifth is the ninety-fifth of the three, and the ninety-sixth is the ninety-sixth of the three. The ninety-seventh is the ninety-seventh of the three, and the ninety-eighth is the ninety-eighth of the three. The ninety-ninth is the ninety-ninth of the three, and the hundredth is the hundredth of the three.

11
thing peculiarly possesses the property of exciting, as a proof the small
pox matter excites a peculiar action, in the same way all morbid
actions are excited, as all diseases are presumed to arise from a
point, the disease assumes the nature of the action first excited,
in this way is explained the theory of Conception, the female org-
ans of Generation consist of the vagina, uterus & its appendages-
the semen deposited in the vagina commences its peculiar ac-
tion this is communicated to the uterus, then to the ovaria, by sym-
pathy the ovarian vessels enlarge, project and burst, the fallop-
ian tubes acquire a peculiar action, and having embraced the
rudiments of the fetus convey them to the uterus, During this time
the uterus makes the necessary preparations for enveloping the
fetus and perfecting its formation and growth, and by sympa-
thy the breast furnishes milk for its support after birth - Taking
all these things into consideration, the process of generation is
most probably carried on by sympathy. If the uterus and mam-
ma sympathize, cannot other parts of the genital organs act in
the same way?

we now proceed to examine the doctrine of Epigenesis denying the
preexistence of germs, this doctrine supposes that the fluid con-
tained in the ovarian vesicles, is the rude elementary matter which
after impregnation becomes organized into an embryo by the ener-
gies of the semen masculinum. The primary traces of this doctrine
are to be met with in the writings of Aristotle (see Richerand)
of late its most able and determined supporter is Blumenbach,
(see his system of Physiology and essay on generation) his doctrine
appears not very remote from truth in its outline, but in filling
it up he commits many errors which we had supposed a Phys.

idologist of his standing might have avoided. It is not true that the semen enters the uterus, the seminal influence is first felt in the ovaria, and the ovum or fecundated fluid is not conveyed to the uterus before about the 20 or 21st day, I believe the ovaria is a gland which secretes the elements of the embryo, but that by a peculiar action or energy of the male semen, an action is excited in the ovaria which produces the necessary qualifications of the fetus as figure, form &c. after this process in the ovaria the embryo is conveyed to the uterus by the fallopian tubes, at the age of puberty there is a general revolution in the body, hair appears on the pubis and chin, and the different parts of the body become better proportioned to each other, we know not however the precise operation of this seminal influence, we are equally ignorant how the small portion of Variolous Virus produces the small pox. I have embraced this subject at great length, but what I have said arises out of the difficulty of the subject, we must adopt a modification of the theory of Epigenesis, It affords us much light on many obscure subjects, we will now proceed to the description of the ovum, by it we suppose that structure in the cavity of the uterus containing the fetus and membranes, you know that the rudiments of the fetus are contained in the ovarian vesicle. Dr. Graaf supposed it to be perfect in its figure when it left the ovaria - it is most probable that the oval conformation does not take place at first but after it arrives in the uterus; It would be almost impossible for any ovum to pass through the inner extremity or canal of the fallopian tube which is scarcely large enough to admit a common bristle, It is said that the ovum has been found in the tube, but it may happen that the cylindrical canal shapes

the fluid so as to appear like the ovum. In the Rabbit whose period of gestation is but one month the ovum is not found in the uterus before the 5th day, the deer which carries nine months on the 5th day and in the sow which carries 5 months it cannot be detected before the 18th day. In our own species it cannot be detected before the end of the 3^d week (Dr. Chapman has described the gradual development of the fetus in utero but for a very accurate description see James Burns vol: 1. Page 132) of the nourishment of the fetus in utero, it is the least understood, as preliminary I may say a few words on the ovum & its membranes and secundines, you are to understand by the ovum nothing but a membranous bag containing the fetus. There are three membranes, two proper to the fetus and one the production of the uterus, viz. the amnion and chorion to the former and outside of them the decidua, while the preliminary steps are going on in the ovum, the uterus prepares the decidua Haller supposed it was formed by naked vessels shooting out from the uterus. Dr. Hunter imagined that the arteries of the uterus poured out coagulable Lymph which was afterwards changed into decidua. His brother Mr John Hunter attributed its origin to coagulable blood which formed a pulpy substance on the inner surface of the uterus. It is now supposed to be an action similar to that forming the membrane in inflammation the uterus is in a high state of excitement and the decidua is the result of a specific action. The reason of the reflexion of the decidua appears to me to be this, the decidua consists of two layers, the outer layer, has two foramen opposite each orifice of the fallopian tubes, the under layer is perfectly whole, the

17
ovum passing through the foramen of the outer layer meets with the inner end not being able to rupture it, protrudes and carries it along and thus it appears to be a reflected membrane, analagous to this is the descent of the testicle into the scrotum carrying with it the peritoneum. The Formation of the Placenta. It must be recollected that there is an intimate connection between the reflected membrane and the chorion owing to an inoculation of vessels, thus united they form a matrix or bed, the vessels enter on each side, thus from the umbilical cord and also those from the uterus. After sometime there is a cellular substance formed between the umbilical and uterine vessels forming something like the parenchymatous structure or plexus of nerves. There is a peculiarity in the human species differing from all others, except perhaps the monkeys, The whole placenta coming away at once. In other animals the uterine portion is fixed, The umbilical cord consists of three vessels of which two are arteries and one a vein, they are imbedded with gluten and covered with a double membranous coat. The Liquor Amnii during the early months of pregnancy is clear and limpid but it afterwards becomes cloudy and is sometimes mixed with meconium, it cannot proceed from the fetus but it is formed before there is any appearance of organization in the fetus capable of secreting it, it appears to me to be an exhalation of the arteries of the amnion, The real uses of the Liquor amnii, are first to allow free use for the development of the Fetus. 2nd It promotes delivery forcing down the membrane through the os Tineæ; with the exception of the placenta, the umbilical cord and the decidua, there appears no organization in the membranes, they appear like coagulable Lymph; with these remarks I proceed to the nourishment of the Fetus in utero. There are two theories, the first that it proceeds from the liquor amnii, second that it proceeds

19
from the umbilical cord, I deny the first because it has been found total-
ly different; 2nd the membranes have burst two weeks before delivery and
Liquor amnii escaped. 3rd Children have been born where there was no
communication with the alimentary canal, there are scarcely any of
the organs that performed any functions, except the heart and arteries
there are none, there have been instances where either the heart and arter-
ies Lungs, Brain, or liver were wanting & the child lived till delivery. The
substances of the fetus is derived from the mother, by a peculiar action
of the mother the blood is perfectly adapted to the fetus nourishment of
the fetus. The nourishment of the fetus by the umbilical cord was first
inculcated by the Stoics. It was for a long time neglected and afterwards
revived about the discovery of the circulation of the blood, the alleged
vascular connection between the fetus and placenta is rendered
improbable by the impossibility of injecting the arteries of the cord and
maternal placenta, there is a difference between the fetal and mat-
ernal blood. If this was not the case the blood would pass into the
fetus unprepared by the mother, the force of the circulation would
destroy the tender ovum and the fetus. as a direct vascular comm-
unication could not be maintained, another mode was instituted.
It was said that the umbilical arteries poured out their blood into
the cells of the placenta where it was prepared taken up by the
umbilical vein and distributed to the fetus, (See Blumenback's
Physiology.) He says there exists no communication between the
uterine and fetal vessels. The circulation of the cord and uterus
are perfectly distinct, there exists the fetal and maternal circulation,
the maternal in the uterus, the fetal in the placenta and cord, they
never inosculate, this is discovered by maceration. Two plants grow-
ing together with the roots entangled present no bad analogy. This

from the umbilical cord, during the first hours of life, the
 is different. 2^o The umbilical cord contains two vessels, the
 1. the smaller vessel, 2. the larger vessel, which are
 communicating with the abdominal cavity. These are
 the organs that furnish the infant with food and
 there are more. There have been instances where the
 the lungs being in some cases, and the whole
 relation of the fetus to the mother is a subject of
 of the mother the fetus is perfectly adapted to the
 the fetus. The movement of the fetus by the
 conducted by the blood. It was in a long time
 observed about the course of the circulation of the
 the vascular connection between the fetus and the
 important by the supply of oxygen to the fetus
 actual relation. There is a difference between the
 and blood. It was not the case the blood was
 fetus was prepared by the mother, the fetus of the
 during the time the fetus was in the uterus, as a
 circulation could not be maintained, and the
 it was said that the umbilical cord was not
 the cells of the placenta when it was prepared to
 umbilical vein and artery to the fetus. The
 physiology. It says that there is some
 tissue and fetal vessels. The circulation of the
 perfectly distinct. There is a difference in the
 the material with which the fetus is supplied and
 was in a state, there is an increase by means of
 in the fetus with the mother and the fetus.

is precisely the case with the Vessels of the cord and uterus, they run on each side without inosculating, the arteries of the umbilical cord do not inosculate with the Veins of the cord tho' they run together, the arteries of the uterus partly pour out into the cells of the placenta for the fetal nourishment, and the rest of the blood is returned by the Veins of the uterus. The fetal or umbilical circulation resembles the pulmonary, and the maternal the corpora cavernosa penis. There is not the slightest connection between the Vessels of the mother and fetus, that this is correct is proven by injection; we inject the Mercury into the umbilical arteries and every particle is returned into the Veins, if we inject the uterine arteries the Veins alone are full with the exception of the cells of the placenta, but nothing is found in the fetal Vessels, this is supported by other facts, first it is well known that after the cord is cut no hemorrhage is sustained by the mother or that side connected to the uterus. 2nd It appears that the fetus is no looser by the hemorrhage of the mother, floods of blood are discharged and no debility occurs to the fetus. 3rd The mother is not affected by the hemorrhage of the fetus, in opening the head of the child and discharging the blood by the carotid artery the mother although much debilitated by the pains of delivery is not affected by the loss of blood. 4th It has been observed that when the placenta and child are discharged at the same time by a violent pain the circulation is maintained between them untill the pulmonary organs are expanded and the child respires. A case of this kind came within my knowledge where by immersing the child and placenta in warm water, the circulation was kept up between them for one hour and five minutes; this shows that the fetus is independent of the mother both as respects the blood and circula-

is precisely the same as the first of the series of
 an exact like without any variation. The series of
 goes to the end of the series with the same of the end of the series
 pattern, the pattern of the series is the same as the end of the series
 the center for the first series is the same as the end of the series
 turned by the series of the series. The series is the same as the end of the series
 there is a series of the series, and the series is the same as the end of the series
 series is the same as the end of the series. The series is the same as the end of the series
 of the series is the same as the end of the series. The series is the same as the end of the series
 we give the series of the series. The series is the same as the end of the series
 is returned to the series of the series. The series is the same as the end of the series
 when one falls with the series of the series. The series is the same as the end of the series
 thing is found in the series of the series. The series is the same as the end of the series
 first it is a well known fact of the series. The series is the same as the end of the series
 turned by the series of the series. The series is the same as the end of the series
 means that the series is the same as the end of the series. The series is the same as the end of the series
 there are the series of the series. The series is the same as the end of the series
 that is not affected by the series of the series. The series is the same as the end of the series
 end of the series. The series is the same as the end of the series. The series is the same as the end of the series
 of the series. The series is the same as the end of the series. The series is the same as the end of the series
 is not affected by the series of the series. The series is the same as the end of the series
 when the series is the same as the end of the series. The series is the same as the end of the series
 without series. The series is the same as the end of the series. The series is the same as the end of the series
 the series of the series. The series is the same as the end of the series. The series is the same as the end of the series
 some of the series. The series is the same as the end of the series. The series is the same as the end of the series
 series is the same as the end of the series. The series is the same as the end of the series. The series is the same as the end of the series
 appear then for the series. The series is the same as the end of the series. The series is the same as the end of the series
 is a series of the series. The series is the same as the end of the series. The series is the same as the end of the series

lation, nothing can be more satisfactory, additional testimony can be brought. In the monkey and some other animals the placenta is not deciduous, but part of it belongs to the mother, the fetal part separating occasions no hemorrhage to the mother. Experiments also show that no such circulation takes place. 1st The side of a pregnant bitch was opened by me and the umbilical veins were cut, the loss of blood from the fetus was great but there was none from the bitch. I cut the carotid artery of a pregnant bitch and bled her to death I immediately opened her and found the fetal circulation full but the uterine empty. By the preceding experiments I found that there is a difference between the fetal and maternal blood, the maternal is thicker. The fetus fabricates its own blood, the mother only furnishes the materials. The chick makes its own blood and why not the fetus? - - -

The use of the placenta. The function is twofold, the blood undergoes changes analagous to the pulmonary organs. French & Leslie have defended this doctrine, they say that the placenta performs the office of Lungs, compression on the cords kills like compression on the trachea. The last argument is conclusive, but it is denied by some that any such change takes place as is to be mentioned. There is a difference in the heat of the mother and fetus, whence comes the oxygen combined with the blood returning from the fetus, as it derives its heat from the surrounding medium, by many it is said that the placenta secretes a substance for the nourishment of the fetus. This is admitted by Harvey, Blumenbach, Burns and many others respectable physiologists, By Harvey it is termed Albuminoid. It may be seen oozing into the cells of the placenta, It is secreted by the exhalant arteries of the uterus into these cells, the action of the mamma and uterus as I observed before are altered. In

the state of pregnancy the making of milk is transferred to the uterus and after birth the milk returns to the mamma and the epigastric arteries return to their pristine state before pregnancy, during the suppression of the milk the Lochia are increased. It is by means of the placenta that the fetus is nourished. That it is a respiratory organ is an old doctrine, decarbonizing the blood. Jeffries and French about twenty five years ago revived it. Their arguments are that its structure resembles the lungs. But it is proved that the blood going from the fetus resembles dark venous blood and that returning resembles florid arterial. There does not it is true exist as much difference as in the adult. The question now arises whence comes the oxygen combined with the blood? It is proven that the placenta has made in it a provision of oxygen in the same way that the chick receives it from the air bag. (See Harvey, Haller, Blumenback &c) there is a fluid secreted in the placenta resembling milk for the nourishment of the fetus, during the last Lecture I mentioned that the action of the uterus and mamma were alternate; having conjectured that this fluid was absorbed by the radicles of the umbilical vein, but it is denied, to me it is manifest that the fluid is taken up by a set of absorbents and carried to the fetal Liver, Lymphatics have been seen in the umbilical cord by Monroe. This wants confirmation I confess but it may be owing to a want of minuteness in the examinations. No one has discovered absorbents in the brain, bones and Cartilages, yet their existence cannot be disputed, Lymphatics and arteries must run together, deprive the body of one or the other and it falls to ruin, there is no other way in which the fetus is or can be nourished, this may appear inconsistent with what I have said respecting the absorbents of the vagina, but the case is different:

we must recollect that as the fetus receives its blood already digested by the maternal organs, there is no excrementitious matter thrown off by the fetus. By my experiments I found that about the 3rd day after incubation, the umbilical cord begins to project; about the 8th day it ascends to the air bag as in the fetus, the blood returning is florid so in the small child a small tube runs from the air bag to the yolk conveying florid blood, the albumen does not contribute to the nourishment of the chick, the ~~utero~~^{amniotic} is the same with the Liquor amnii of the fetus, by the vitellus a stock of nourishment is afforded to the chick, the chick as it comes from the shell has a portion of the vitellus attached under it for its nourishment. for the first five or six hours, when it looses this portion of the vitellus it generally dies, there is a similitude in both, in the oviparous there is a duct, in the viviparous we see in the placenta a lactescent fluid which is conveyed into the fetus by a plex of lymphatics -

The moment the child escapes from the uterus it assumes a new and independent mode of existence; it must have food and drink. It is by Digestion that the food becomes subservient to the purposes of the animal. The first step towards the process of digestion takes place in the mouth, the food is masticated and mixed with saliva. Many animals swallow their food whole, ruminating animals break it and swallow it hastily and afterwards masticate it, as the Cow; The stomach is divided into 4 bags of which the 3 first communicate with the oesophagus, it is first conveyed into the paunch, afterwards by small quantities into the bonnet, it then rises into the mouth and is re-chewed by the animal which seems to enjoy that process, it then descends into the third stomach called the manypis from this it enters into the abdomen when the process is completed. In the Gallinaceous animals there is a paunch

or craw where the crude food is received, it is mixed with a fluid and conveyed into gizzard where it is ground, then transmitted to the duodenum mixed with the pancreatic and biliary juices and finished. In the human body the real use of the saliva is to lubricate the inside of the mouth and surface of the tongue; In deficiencies of the saliva, the tongue becomes rough and the taste of different substances can hardly be distinguished; It is mixed with the food and facilitates deglutition and digestion; It is then conveyed to the stomach. The stomach of all animals possess the power of coagulation, of what does this power consist? Some say to attraction, but be this power what it may by it the food becomes coagulated. There is a secretion or exhalation of the arteries of the stomach which forms the gastric juice. Carminati declares that in carnivorous animals the gastric liquor is acid; in Phytoferous, alkaline, and in those which feed on both indiscriminately neither acid nor alkaline. Brugnatelli says in all animals it is universally acid, It appears to me that the gastric fluid possesses nearly the same properties in all animals, for carnivorous may be made to live on vegetables altogether and vice versa, It is its solvent power which renders it so important in digestion - Dr Stephens hired a soldier who had the power of ejecting food at any time after eating to swallow metal tubes filled with various articles of food and he brought indisputable evidence that solution took place. Spallanzani's Experiments have also proven that whatever is swallowed is so immediately absorbed that if immediately ejected the original properties are altered, while digestion is proceeding the stomach becomes the centre of fluxion, the fluids appear concentrated and there appears an accumulation of the vital energies. Patients in the Hotel-Dieu, with ulcers on their extremities while fed upon strong food always were worse

with respect to the ulcers, they became pale and did not get well until the diet was changed. By the contraction of the muscular fibres of the stomach it has an undulatory motion which facilitates digestion. The time of digestion depends on the quantity of food taken into the stomach, the average time is from 3 to 4 hours, all the food does not pass into the duodenum at once but only as it becomes assimilated in the stomach, the duodenum may be considered as a second stomach from its situation, size, regularity of its curvature &c. and by receiving a prodigious number of the orifices of the hepatic, biliary, and pancreatic Vessels, it also allows the alimentary substance to remain longer in it and the fluids to act on it more fully, The mixture of the bile and pancreatic juice has been considered as a mechanical process, but in what manner it is effected is absolutely unknown, while one part of the bile is mixed with food, the other passes into the intestines to excite their action - after they have undergone the action of the duodenum, digestion has been considered completed, but it is probable that the action is not completed considering the innumerable Vessels which are placed along the whole course of the intestines. The chyle before it enters the lacteals, may be considered as having the leading properties of blood, viz. by its resemblance in its serum, fibrilli, and globules to the blood, The residuary portion of faecal matter is now descending into the Large intestines and the chyle is entirely separated. There are no Vessels in the large intestines for the purpose of separating the chyle, the absorbents diminish from the caecum to the rectum and are but few in number. This accounts for the difficulty of throwing in nourishment by means of Clysters when there is obstructions in deglutition -

33

In reflecting on what has been said on the subject of digestion it must appear evident that it is under the controul of the vital principle. Spallanzani has proven that the gastric liquor out of the body possesses solvent powers and causes substances to resist putrefaction, but even admitting this, there is no formation of chyle out of the body. It must be evident from the nature of chyle that the vital principle must be the chief agent in the formation of it, By what principle can all the substances taken into the stomach be made into the same homogenous fluid - it is neither by chemical nor mechanical principles, unite an acid and an alkali and you always have a neutral salt, Grind a stone and cut flesh to mince meat and you always have the same particles of matter, The old doctrines of concoction, trituration, fermentation and putrefaction have and must be rejected, digestion cannot exist out of the body and it must take place with a sound state of the stomach, when it is diseased digestion is imperfect - To show that it depends on the vital action and cannot exist out of the body, it is proven when the 8th pair of nerves are cut digestion is stopped, and if even going on at the time it immediately ceases and if not immediately going on at the time it never does - There is also a curious fact illustrated by John Hunter, that digestion goes on better in the morning early than late in the day or evening. As it favours the process of digestion, it is however apparent, that our functions are in some measure subservient to the diurnal revolutions, digestion, respiration, strength, and many of the ^{other} functions of the animal economy are increased in the morning, this proves that it is neither mechanical or chemical, Digestion is not a simple operation confined to the

stomach only. It is carried on chiefly in distinct portions of the alim³⁵
entary canal: In the stomach it is formed into chyme by the solvent
power of the gastric liquor; after reaching the duodenum this pul-
taceous mass is formed into chyle, but by what means so important
a change is effected we do not exactly know: Is chyle with all
its attributes formed in the duodenum? may not some addition
or change, giving it a more perfect character, take place in its p-
assage through the lacteals to the blood vessels? Considering the
number of conglobate glands which in its course act upon it:
the supposition does not appear at all unlikely. In all our Experi-
ments on digestion and other operations of the body we must bear
in mind the vital principle. We now come to the manner by
which the lacteals convey the chyle to the blood: In the small
intestines are discovered numerous absorbents, commencing at
the villi, the lacteals proceed along the intestines and after a short
time, they enter the mesentary, they penetrate it and are lost in the
conglobate glands, when opened they are found emerging from the gl-
ands and progressing to the receptaculum chyli and Thoracic duct;
that they perform this office is placed beyond the possibility of a dou-
bt. In killing animals immediately after digestion the lacteals
are found filled with chyle. It is still maintained by Morgagni
and other Physiologists that the mesenteric veins, are subservient
to the process of carrying chyle. 1st It is affirmed that these V-
essels being tied chyle is found in them. 2nd That the fluid found
in them does not coagulate. 3rd That they are Languin propor-
tion to the arteries than the Veins of any other part of the living bo-
dy are to their corresponding Arteries. 4th

5th That the thoracic duct is too small to contain the fluids of all the absorbents. 6th That if the thoracic duct be obstructed the animal lives much longer than could be supposed were the duct to convey all the chyle, these appear to be weighty arguments and we must examine into the truth of them, most of them are however incorrect, 1st the appearance of chyle & milky spots are as often observable in the veins of other parts as in these veins, and are accidental, the blood of the goose often has these milky spots and the chyle is as pellucid as water. 2nd the blood of the mesenteric veins does not coagulate as is proven by experiment. 3rd The disproportion of veins to arteries is not confined to this set of blood vessels as there are other veins which bear the same proportion to the arteries. 4th Milk injected into these veins returns by the arteries and not a particle passes into the intestines nor is carried into the Liver. 5th Considering the slow motion by which the fluid moves, the thoracic duct is large enough to carry it. 6th There is not much truth in the assertion that animals survive the loss of the thoracic duct, animals even when deprived of food live a considerable time - The question of Venous absorption has been fully investigated by John Hunter and he could never yet discover any absorption by them while the lacteals were at the same time undergoing that process; of the absorbent system the lacteals constitute a large proportion - The absorbent vessels of every other part of the system (than those of the intestines) are termed Lymphatics, they contain many glands run into many conglobate glands, emerge and prosecute their course, carrying Lymph, this is proven by their resemblance to the Lacteals, when the gall duct is obstructed, the absorbents of the neighbouring parts are tinged with a yellow colour, while the veins retain their natural appearances, the confutation of Venous absorption is fully made out by the facts. (see Dr. Chapman's note in Richardson's Physiology Page 161.)

The first of these is the fact that the
 administration of the law is not
 uniform. The second is the fact that
 the law is not applied equally to
 all. The third is the fact that the
 law is not applied consistently. The
 fourth is the fact that the law is
 not applied in a way that is
 consistent with the principles of
 justice. The fifth is the fact that
 the law is not applied in a way
 that is consistent with the needs of
 the community. The sixth is the
 fact that the law is not applied
 in a way that is consistent with
 the values of the society. The seventh
 is the fact that the law is not
 applied in a way that is consistent
 with the interests of the individual.
 The eighth is the fact that the law
 is not applied in a way that is
 consistent with the interests of the
 state. The ninth is the fact that
 the law is not applied in a way
 that is consistent with the interests
 of the world. The tenth is the fact
 that the law is not applied in a
 way that is consistent with the
 interests of humanity.

(also see Richerand on the Lacteals and Lymphatics) I stated that the Lacteals and Lymphatics exercise a considerable influence over their contents. Lymph is a homogenous fluid as chyle, the chylipoietic viscera or any part of the absorbent system, it is clear to me, completely decomposes all substances, and however decrepant in their properties reduce them to a homogenous fluid fitted for the purpose of nutrition, by the process of assimilation, whatever is offensive to the stomach is vomited. The absorbents perform a similar action, thus when different substances are presented to the Lacteals one is rejected while the other is absorbed, this is one of the proofs of elective affinity of the absorbents. Diluted acids by their acid properties may cause them to contract and reject them or the fluid may be so bland as not to possess the power of stimulating them to action but how shall we account for the choice of chyle and bile? we account for it in this way, the chyle being wanted for the nourishment of the body is readily absorbed while the bile which would be injurious in the circulation is rejected, coloured fluids are seen in the lacteals or chyle, as soon as it is passed the barrier it loses its character and it is always the same fluid in character and quality, when it reaches the receptaculum chyli, coloured fluids have been taken into the Lacteals and found there, but little altered, but before they reach the receptacle they are wrought into true chyle, we may suppose the glands to perform this office as they are found in the greatest number where the chyle is purest, we may also suppose that something is secreted from the arteries which combines with the chyle and digests it, we may suppose glandular action to begin in the stomach and finish in the conglobate glands when there are but few glands, whatever is absorbed retains nearly its primitive form & qualities, we have now concluded this subject, I have next to speak of the blood and the manner in which chyle is converted into Blood.

(The first of these is the fact that the
 and a hypothesis is necessary to explain the
 is a hypothesis which is a hypothesis. The hypothesis is a hypothesis
 abundant system, it is also a hypothesis. The hypothesis is a hypothesis
 because of the fact that the hypothesis is a hypothesis. The hypothesis is a hypothesis
 fitted for the purpose of action by the hypothesis. The hypothesis is a hypothesis
 is opposite to the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 and, when sufficient evidence is present to show that the hypothesis is a hypothesis
 the hypothesis is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 of the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 contrast and action. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 force of the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 of the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 for the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 would be necessary in the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 then in the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 because it is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 quality, when it is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 have been taken into the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 before they are taken into the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 may suppose the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 quantity, when the hypothesis is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 nothing is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 it is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 turned and turned in the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 plant, when it is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 quality, it is a hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis
 of the hypothesis. The hypothesis is a hypothesis. The hypothesis is a hypothesis

41

Blood is a red fluid in our bodies and in most animals, many have white blood, some Green, &c. no matter what the colour of the blood is it performs the same functions, and is called blood, blood taken immediately from the veins sends forth a halitus, it afterwards separates into serum and crassamentum, it is resolved into 4 parts, the Halitus, Serum, Fibrine and Globules, of the nature of halitus we are not acquainted it probably affords the colour of the body and is the means by which contagious effluvia is propagated, It is this which may produce the offensive smell in rooms where many persons are confined. Dr. Chapman next spoke of the other parts of the blood and their chemical properties -

The question I mean to discuss to day is, By what means is the coagulation of the blood effected? Coagulation is a vital operation. But before I proceed with my opinion I will first mention some of the theories on this subject, the well known fact of animal gluten becoming coagulated by cold first gave rise to the opinion that blood coagulated from the same cause, Hunter proved that cold destroys the power of coagulation of the blood; Hewson, by heat the process is hastened, at a high temperature it coagulates immediately, as blood by circulation retains its fluidity, it was next supposed that rest would not coagulate it, The process is in some measure retarded by motion, this is proven by agitation, but a quiescent state will not prove that it alone produces coagulation, Hewson included between ligatures a portion of blood vessels and it did not coagulate - It was next referred to the agency of the atmosphere, many experiments were made with different effects, Blood drawn in shallow vessels with a broad surface coagulates sooner than when drawn in a deep vessel with a small or narrow surface; not satisfied Hewson made further Experiments, he laid bare the

43
jugular vein of a dog rabbit tied it up then punctured it and immediately on the air touching it, it coagulated, Haughton found the results different, Hunter denied the coagulating power of the air, he says blood coagulates more readily in vacuo, than in air, Dr. Physick (at that time his student) exposed the jugular vein of a sheep he punctured it and received it into a tube to which was adapted a stop cock so that no air came in contact with it, he found the blood immediately coagulated, it was supposed that coagulation was owing to combination with oxygen, But Dr. Hewson of this city proved that it coagulated in vacuo, I think that coagulation is owing to an animated power of the blood similar to muscular contraction, Hunter proved they are not exactly analogous ^{as} the blood is not capable of being acted upon by the same stimuli which produce muscular contraction; Hunter proved that whenever the muscular contractibility is destroyed, as in death by Electricity, blows on the stomach, violent exercise, the poison of serpents &c, the blood also loses its contractibility. Independent of these facts there is another. one of the laws of chemistry is that all fluids, converted into solids give out caloric, but the blood does not coagulate give out caloric during coagulation, this shows that it is not a chemical process, Lastly we will trace the commencement of vascular action and circulation of the blood, Hewson says and it was corroborated by Hunter that where vascular action is greater there is less contractibility in the blood, thus in Hemorrhage this doctrine calls for stimuli. He says the power of coagulation is always in proportion to that vascular action, He drew the blood of an animal into 3 cups. Into the first the blood when first issuing from the artery and when the animal was strong and the action great. Into the 2nd he drew the blood when the powers were perhaps half exhausted, and into

the last he drew the last blood perhaps halfer of the dying animal the first drawn blood contracted much the soonest the 2nd next and that in the last cup a considerable time afterwards, these experiments are conclusive, the use of V.S. in hemorrhage is to prevent the washing out of the coagulium by the greater action of the arteries and not to increase the contractibility of the blood as might be inferred from Hewson's doctrine. I have nerved a pith with a disease of the Chest but the blood was sizey, we ought not always trust to sizey blood as an ^{indication of} inflammation, from what I have said you may suppose that I am a convert to the doctrine of the vitality of the blood, for more on this subject I refer you to Hunter and Caldwell.

After tracing the course of the chyle into the circulation we must next enquire how the blood is changed by respiration.

By Respiration is meant the process by which air is inspired and expired to and from the lungs, Air is admitted by the trachea and bronchia into the innumerable cells of the lungs, It is said that if the cells were expanded their surface would be equal to that of the whole body, Air enters so immediately into contact with the blood, that it cannot be traced into the circulation, Dark blood is sent to the Lungs from the heart where it obtains the florid colour it is then returned to the heart and conveyed all over the body. In the main arteries it retains its florid colour but in the minute arteries it loses it and becomes dark and Venous, this fact was probably first known to Mayo, In the pulmonary veins it is florid and in the arteries dark, It obtains its colour when exposed to the air. Black first ascertained that carbonic acid gas was exhaled from the Lungs by precipitating a solution of Lime in water by breathing through it, Lavoisier assisted by others, then took up the subject of respiration and they all agreed that no animal can live without oxygen, Even worms absorb all the oxygen of the place

in which they are confined before they die, Chemically considered atmospheric 47
air contains 27 parts of oxygen and 72 of azote and 1 of carbonic acid
according to Lavoisier, this has reference to weight, not to measure. Berthollet
has shown that it contains only 22 parts of oxygen in the hundred by measure,
by some it is said that carbonic acid is only an accidental not an essential
constituent of atmospheric air by being found generally in a larger quantity near the earth,
but it has been detected, near the summit of mount Blanc - air examined from its
expulsion from the lungs, the oxygen is found diminished and the carbonic acid increased
but the azote still remains the same water is exhaled, respiration is influenced
by circumstances which cannot be obviated as digestion - Temperature,
but nevertheless I say comparing all the Experiments that have been made there
is no oxygen absorbed into the system I mean by the pulmonary organs, the quantity
of carbonic acid expired is increased by digestion in the hot stage of intermittent
fevers but it is diminished in debility from sickness, fasting &c. there is less carbonic
acid expired in the close than in the early part of the day I have said that watery
vapour escapes from the lungs, Murray says not more than 2 or 3 grains per minute,
By the early experiments of Lavoisier we were taught that nitrogen inhaled forms
no connection with the blood and is all exhaled, this is denied by Priestley
and Davy, they say that if the purest oxygen is inhaled, there is always a portion
of nitrogen mixed with it, but it is most probable that it was owing to the nitrogen
accumulating in the cells of the lungs which was not all exhaled by their common
respiration, Concluded by experiments we have ascertained the Phenomenon which
takes place in the lungs, the first theory alledges that the oxygen of the air combines
with the hydrocarbon of the blood and forms water and carbonic acid, they say that
respiration is nothing but slow combustion

in the Lungs. This theory however has met with serious objections, Richardson and Barthollet, It is said that oxygen will not combine with carbon at the ordinary temperature of the atmosphere as a ternary or quaternary compound. Barthollet proved that it combined at every temperature Henry's Chemistry. If respiration was analogous to combustion heat ought to be evolved Crawford has shown that arterial blood has a greater capacity for caloric than venous as 105 to 100, It is said of the caloric evolved that part heats the blood and part forms the vapour exhaled by respiration. But whence comes the Hydrocarbon of the blood? Crawford supposes that it was taken up by the radicles of the veins and thrown out in expiration, But Dr. Gardner injuriously objects that if the arterial blood denies its colour from the loss of Hydrocarbon and the capacity for caloric increased, the same should take place in the solids as well as in the blood and there would be no sensible appearance of caloric in our bodies, many say that the oxygen combines loosely with the blood and is parted with in the course of the circulation and carbonic is absorbed. One theory is that combustion takes place in the lungs, another in the body or circulation, the question decided by many chemists that ~~the~~ no oxygen combines with the blood and that venous blood does not absorb any carbonic acid, or that carbonic acid exists in the phenomena of secretion, exhalation see is not explained by their theories. The blood is the source whence the solids are formed the waste is supplied by the chyle. We have as yet considered respiration only as a series of chemical action, but it is controlled by the vital power, If the Lungs be filled with the pure oxygen no more is retained than when mixed with atmospheric air, thus animals placed in a vessel filled with pure oxygen do not consume more of it than 27 parts out of the 100, and it

51
takes them four times as long to consume the same quantity of oxygen as atmospheric air. Respiration is influenced by the nervous system, cutting the 8th pair of nerves immediately stops respiration, the Lungs cease to perform their office and the blood returns unaltered to the heart. Le Grange and Le Gallois say that it is owing more to the change in their functions than any action of their lungs upon it I will conclude by asking this question If respiration does not depend upon the Lungs affording vitality to the blood independent of chemical action why cannot resuscitate a dead person by merely inflating his lungs connected with respiration is the combination of heat with the blood. Mayo first ascribed it to the air acting on the Lungs, but the discovery of the first step was attributed to Black - and the perfection of this theory we are indebted to Crawford, after combining with the heat the blood arterial passes to the extreme vessels and parts with its caloric - the veins take it up and the capacity for heat returns -

Crawford's theory is still defective in as much as he attributed the generation of caloric to but one source viz. Respiration, Heat is received by other means than by the Lungs alone, by the skin by the digestive organs and by the different combinations of bodies, they will not afford as much however, the skin carries off much by perspiration, the digestive organs by mixture with food and the mucus by the quantity retained to keep the fluids properly thinned, Caloric is evolved by the combustion of solid matter by this combustion carbon is given out and combines more internally with oxygen. Heat is evolved in many ways, 1st by the decomposition of air in the Lungs. 2nd on the surface of the body. 3rd In the digestive organs. 4th By the different changes going on in the body. 5th By the conversion of blood into solids. 6th The secretions. 7th and lastly from muscular contraction within

we live under polar snows or tropical sun the body always remains of the same temperature and different from that of the atmosphere, the Heat expired by the lungs is sufficient to melt 24 pounds of ice in 24 hours. It was supposed that animals could not live in a high temperature. But some French experimenters lived in room at a temperature of 250 degrees of Fahrenheit, one remain in a room heated to 285 degrees for the space of ten minutes, food was cooked yet the heat of their bodies was not increased, the great heat was remedied by perspiration - one of them discharged ten pounds of sweat in ten minutes, much caloric is carried off by the evaporation of the surface of the body, the contrary is the case in a low temperature, there is little or no evaporation and therefore much caloric is retained, If a person be exposed to a very low degree of temperature both arterial and Venous blood will be of a florid colour. At a high temperature but little oxygen is received into the body and therefore little caloric is evolved in the body, the profuse perspiration carries off much caloric and thus the action of Heat is resisted. John Hunter objects to this theory by saying that in a case of Contusion of the head where the patient breath but 5 times in two minutes, yet the temperature of the body was still preserved. But the particulars of this case are not mentioned and therefore but little weight is attached to it. It has been shown by Brodhead that when animals are deprived of brain and the respiration kept up artificially and all the changes produced as usual, the circulation carried on as in health, yet no animal heat is evolved and the animal becomes more speedily cold than when dead. The strongest ground upon which the chemical theory rests is that the quantity of heat evolved is according

to the quantity of oxygen received into the Lungs, the temperature of Birds⁵⁵ is much greater than of any other animal, as their Lungs are large in proportion, In the ~~amphibious~~ where the Lungs are small the temperature is proportionably decreased. In Hybernating animals which seldom breathe we also find the temperature decreased. Admitting all these things we must infer that the animal heat is owing to the combination of air in the Lungs and to the changes which take place in the Living system by which latent heat is evolved, But all are under the controul of the Vital principle. The blood does not merely combine with oxygen and give out carbonic acid. By it the most important changes take place throughout the whole body. The parting of oxygen at the extremities of the arteries converts the arterial into venous blood. which combining with and carrying along with it the nitrogen, hydrogen and carbonic acid (formed by the union of oxygen with carbon) throws it out by the Lungs as excrementitious matter and it again becomes arterial blood, this is the Doctrine of Murray and is the most satisfactory way of explaining the process of Digestion, Nutrition, Secretion &c. The time is now arrived when it is proper for me to explain the circulation of the Blood. By the Circulation the blood is conveyed to the different organs for the purposes of respiration, secretion and nutrition, The parts subservient to this office are the heart, the arteries and veins. The Heart contracts and sends the blood into arteries which carry it over the body and it returns by the veins, the blood undergoes a double circulation this takes place in the Lungs. the heart consists of two auricles and two Ventricles, the blood is sent by the contraction of the right ventricle into the pulmonary artery to the Lungs where it undergoes a change. It returns by the pulmonary veins into the Left auricle then passes into the left Ventricle which contracts and sends the blood into the Aorta which ramifies

in every part of the body. It is taken up by the Veins which form the Vena⁵⁷
cava thence to the right auricle and Ventricle and again circulates
to prevent the regurgitation of the blood Valves are fixed between the
auricles and Ventricles and at the Aorta, thus it appears the blood
vessels are connected at the heart and extremities, Harvey first said that
at the arteries throw the blood into cells where it was taken up by the
veins, this is contradicted by microscopic observations, In some of
the amphibians the salamander, the web-foot of the frog, the ears of
Rabbits the arteries can be seen distinctly terminating in veins, However
there appears some exceptions to this, In the corpora cavernosa penis, these
the arteries terminate in cells even this is doubtful arteries also ter-
minate in glands. Arteries open up on the surface of the of the body's
cavities and these are denominated exhalents, the existence of exha-
lent arteries is denied by Mr. William Hunter, who thought that the efflu-
ascribed to them was owing to a transudation through the inorganic pores
of the membranes: Masquaque was of the same opinion Not much is to be al-
lowed to their opinions for as we have no proof that exudation does not ex-
ist. The first theory is the most probable many arteries are too minute to carry
red blood as those of the medulla of the brain the adnata of the eye, the car-
tilag. sc. capillary vessels whether they carry red or serous blood are not to
be called independent of the other circulation, but the minute termin-
ations of arteries and commencement of Veins. These combinations are
similar to the network of the absorbents and are so perfectly distributed
over every part of the body that we can puncture no part without obtaining
blood, The heart only requires a certain portion of blood to perform its func-
tion much has been said of the power of the heart in propelling the blood thro-
rough the circulation. Rich estimates it at a few ounces only while Boud-
li makes it amount to one hundred and thirty eight thousand pounds.

The difficulty of determining the exact degree of power exerted by the heart is strikingly illustrated by the great disagreement in the estimate of different writers. Before we engage in any *Calculation* respecting the matter the following data should be clearly established - 1st The quantity of blood expelled from each Ventricle at every contraction. 2nd The degree of Velocity with which it is expelled. 3rd The amount of resistance which each Ventricle has to overcome before it can propel the blood into its corresponding arteries. 4th The effects of the action of the heart on the blood but there are points which seem likely never to be ascertained with any sort of precision and of course our computation must continue as heretofore Vague and Conjectural all we know with certainty is that the Heart is a muscle of great strength as is evinced by the phenomena of the circulation and further by the fact that if the heart of a living animal be grasped, no effort of the hand will repress its action. an inquiry far more interesting here presents itself why as has been frequently asked does not the heart become exhausted like the muscles by exertion. Three answers to this difficult question has been attempted, no one of which however is at all satisfactory for these answers see *Richer ands Physiology* Page 186 note by Dr Chapman. I yesterday began the examination of the question why is not the heart exhausted by continual ACTION? I mentioned the opinions Stahl, Willis and Haller, the motion the heart is unceasing because its irritability is inexhaustable and being always supplied with its proper stimulus, the blood its action is constant, this is the theory of Haller, this theory contains many fallacies, It is entirely subverted by some recent experiments of La Gallois. as the result of many I shall merely mention one - He says that when an animal is decapitated, the action of the heart is not immediately suspended, if respiration be kept up, but is suspended by the suspension of respiration, It is the

Spinal marrow allows motion to the heart and not an irritability peculiar to the heart alone. There is nothing in the heart which ought to give it the power of perpetual motion, It resides in the spinal nerves. That the blood is the immediate cause of the contraction of the heart is proven by the fact that the left side ceases to beat first owing to the left auricle not being filled by the pulmonary veins. The question was decided by Dischat who said that the cause of the cessation of the action of the heart was owing to the venous blood getting into the coronary arteries. of Arteries. They are the medium by which the blood is conveyed to every part of the body. The arterial system may be compared to a tree whose trunk is represented by the aorta having its roots in the Left Ventricle of the heart extends afar its branches and throws out on every side its numerous ramifications. The size of the arteries decreases the further they are from the trunk by which they are given off. Their form however is not that of a cone, they are rather cylindrical arising from one another and decreasing successively in size. The diameters of the branches taken collectively is greater than that of the aorta and the capacity of the arterial system increases with the distance from the heart. Hence it follows that as the blood is continually flowing from a stricture to a wider channel its force must be lessened. Their course is tortuous in the intestines to allow the distension. Arteries also anastomose in different ways and at different angles, this to retard or hasten the circulation of the blood as may be required and to supply the loss of a vessel as in aneurismal operations &c. Arteries have three coats the external or cellular the middle or elastic and the internal or muscular every part of the arterial system possesses contractibility and it is now known that contractibility increases as they advance from the heart. This opinion was first advanced by Cullen and proven by John Hunter. The contraction of the arteries is independent

This is a very common error, and one which is often committed by those who are not acquainted with the principles of the art. It is a mistake to suppose that the art is a mere matter of chance, and that the success of the artist depends upon the luck of the draw. In fact, the art is a science, and the success of the artist depends upon the skill of the hand. The artist must be able to control the materials which he uses, and he must be able to bring out the best qualities of those materials. This is a task which requires a great deal of practice and a great deal of study. The artist must also be able to see the beauty of the materials which he uses, and he must be able to bring out the best qualities of those materials. This is a task which requires a great deal of practice and a great deal of study. The artist must also be able to see the beauty of the materials which he uses, and he must be able to bring out the best qualities of those materials. This is a task which requires a great deal of practice and a great deal of study.

of heat. It has always been a matter of controversy among Physiologists whether the blood is propelled by the heart only or whether the arteries cooperate to the same end. For the discussion of this question see Richardson's Physiology Chapman's notes Page 131 & 2. The VEINS are those vessels which carry the blood back to the heart. they are more numerous than the arteries, nine parts of the blood are contained in the veins and but four in the arteries, the veins have another peculiarity viz. the Valves, this is to prevent their contents from moving in a retrograde course and to modify the effects of lateral pressure, in such a manner that it propels the blood forward to the heart, Veins generally accompany the arteries and very often two veins will be found accompanying one artery. There are also many subcutaneous veins which communicate with the deep seated. as the muscular coat of the veins is hardly perceptible, much dispute has arisen in what manner they convey the blood. In the process of returning the blood to the heart three causes are urged the most efficient of which is undoubtedly 1st the inherent power of the veins themselves. This property is denied by many. It is shown however by Haller that the vena cava is muscular and other respectable physiologists have detected the same structure in the more minute veins. 2nd Cooperating with the above cause is the action of the muscles as may be illustrated by the familiar example of V.S. 3rd auxiliary to these may be considered the contraction of the arteries. Even all these causes would be insufficient were it not counteracted by the vital principle, we will now ask what proof is there of the circulation of the blood? There are many proofs, the shape of the vessels the valves and other causes when an artery is wounded the current is from the heart when a vein it is towards the heart. when pressure is made on an artery that part next

the heart becomes turgid and on a vein vice versa, In the Salamander the circulation may be clearly seen going on. Harvey discovered the circulation of the Blood in 1619. --

Nutrition & Secretion. The living body is continually undergoing destruction and renovation. It is computed by some that the body is renewed every three years, by others every seven. But we have no data from which we can make such deductions, It is however a fact that such changes do take place and the duration of time in which they are effected is entirely governed by circumstances, as age, climate &c. these changes are effected by two powers, Secretion & Absorption. Secretion is effected by the deposition of nutritious particles of matter, from the extremities of the arteries, In the stomach the food is converted into chyle, the solvent power of the gastric liquor affords the chief aid, as soon as the putaceous mass reaches the small intestines it is mixed with the hepatic and pancreatic juices and becomes chyle. Chyle is separated and taken up by the ~~Vessels~~ Lacteals, acted on by them and is thrown into the circulation. In the circulation it is carried to the Lungs and undergoes the action of the air - this completes the process of Sanguification. Every part is subject to decomposition either by disease or the natural operation of the absorbents. This decomposition or destruction of parts must be supplied by another function. Bone is supplied by gelatine and phosphate of Lime, cartilages, membranes and every part of the body that is defective, is supplied with its proper matter this process is denominated Nutrition how it is effected we can only conjecture, that such a process takes place there is no doubt, the healing of bones is done by the formation of callus. The union of parts by the first intention &c. is proof why arteries should secrete phosphate of Lime.

from bones is unintelligible to us. It would appear that the formation & growth⁶⁷ of Stones is similar to that of the body, in their being an accretion of assimilable particles, But this difference exists, In the one there is but an increase of size, but in the body along with this increase there is also organization and Life. & the new parts preserve the properties and functions of the old. The formation and shape is performed by the absorbents. The affording the particles is done by the arteries as callus, the absorbents then is left to work to remove whatever is redundant and superfluous and give the part its perfect form, Conformably to what has been said it appears that nutrition is a double process while the arteries deposit or secrete, the absorbents remove and in process of time the body becomes completely regenerated. Besides nutrition properly speaking the arteries perform many other functions of the body - Nutrition may be properly called secretion, Digestion may be called a secretion - so may respiration, the body therefore will be considered as a real Laboratory in which are performed many operations, which we cannot mistake as the fluids are distinguished by many different properties, they have been divided into secretions and excretions, But this distinction ought not to be used for the urine is as much a secretion as the bile.

By **Secretion** we understand that process by which a fluid or substance is formed of materials different from the matter secreted, Every secretion has its own peculiar action, it is generally effected by the Glands, a structure composed of innumerable arteries, most generally the Vessels appropriated to secretion assume a tortuous shape, so as to retard the circulation of the blood. There are some exceptions however for instance first the effusion of serum in inflammation where the product diffuses from the blood. 2nd the next in simplicity are the follicles or small cavities containing sebaceous matter as in the nose, under the tongue &c. &c. They are the same with the conglomerate glands. The most perfect

69
secretions require a more complicated structure and are termed conglobate glands as the Liver, Testes &c. much difference exists with respect to their structure Malpighi, R &c. (see Mistow's anatomy vol: 2nd Page 417-18, 19, 20) we have now before ^{us} the machinery which performs all the functions of the body. during the chemical reign, secretion was considered a fermentation, next it was considered as a mathematical process. The fluids secreted differing according to the number of angles, And even now there are many who suppose the glands a mere strainer. But this is subverted by one fact, that the matter secreted differs entirely from the substance from which it is formed. Blood is composed of Carbon, Hydrogen, Nitrogen, Sulphur, Phosphorus, oxygen, Iron, Phosphate of Lime, Potash and Soda, the mode by which some are received in the body is easily explained, But others as phosphorus, Lime and Iron are more difficult of explanation animals fed on substances which contained no iron were found on dissection to possess. In what manner is secretion performed, all that we can discover in the structure of glands is that they are a series of convoluted vessels, It would be not presuming to say that there is a play of chemical affinities. This may appear at first view a foolish doctrine, The least difference in the formation of compounds influences the operation. Blood is a compound and by this theory all the changes and products are explained, Thus the bile and semen are produced by the particular combinations of the constituent principles of the blood. How many different combinations are there of oxygen and Nitrogen? and how many different results? The preceding is a very imposing view of secretion and we must not adopt it too hastily, The changes in the system do not take place out of the system, Therefore it is evident that all these changes are produced under the immediate superintendence of the Vital principle.

The chemical theory I mentioned yesterday that all the secretions were

produced by the particular combinations of the constituent principles of the Blood, has a very imposing aspect and we must not too hastily adopt it. There is a power in the body which governs its operations, as a proof the protection which the digestive apparatus employs is derived from a source independent of Chemical Laws - Were this not the case the body would be liable to the same decomposition which takes place after death. The mind has an influence on the process, Haughtons experiments prove that if there is any interruption to the nerves the function is destroyed and no secretion takes place - Brodie's Experiments have proven that where an animal is decapitated no secretion takes place, nor development of animal heat although circulation and respiration are kept up, and the changes in the blood are still produced, Let us now consider the morbid state of the Vessels - In many instances the vessels throw out matter differing from their healthy action, viz. The poison of the mad animals, Venereal Virus, small pox &c. How are these Explained? The older chemists supposed it to be a fermentation in the vessels, but this is not the case. There is no such fermentation - To my mind every change which takes place in the fluids is produced by circulation impressions made on the solids. And that no infection is produced by circulation, the small pox matter has been injected into the blood and no infection took place, Even the flesh of mad dogs has been eaten by other dogs without affecting them. I know an instance of a mad bull being eaten with impunity by many persons, Every product of the body is explicable on this principle, many animals have the power of secreting the most deleterious poisons, many secrete substances peculiar to themselves as the Rat, the skunk, The Cuttle fish &c. as relates to the secretion of Lymph, pancreatic juice, and the other different secretions, with their properties, they will be explained by the

professors of Anatomy and Surgery. The bile is a peculiar secretion, while 73
arteries perform this function of secretion in other parts, the Vena portarum
is subservient to the Liver. The Hepatic artery only goes to the nourishment
of its substance. The Vena portarum bringing the blood from the intestines
has been called an artery by many; they terminate in cysts in the Liver
from which arise the hepatic ducts; It does appear that the bile is secre-
ted by a vein, but this is not always the case, there is sometimes no por-
tarum and a case is related by Mr. Abernethy in the London Philo-
sophical Transactions in which the Vena portarum terminated in the
Vena cava below the Liver without communicating with it. This sh-
ews that the Hepatic artery sometimes performs its office and that the
Lops of one part is supplied by another, some have said that it is the
hepatic artery which secretes the bile, By tying the hepatic Veins, the Ve-
na portarum can be injected through the Hepatic artery. It is proven
by Haughton that they inosculate. I have mentioned the menses to be
a secretion every thing goes to prove this, no one thinks now of attribu-
ting it to fermentation, Venereal appetite &c. The only one of the old d-
octines in which there is any probability is that Local congestion t-
akes place. But the discharge in this case should be pure blood; for
my opinion on this subject (see my notes in Richter and page 278). Every
gland must be excited by some specific impression Viz. The Testes, The uterus
and ovaries, he related a case of a woman at the Hospital of London &c.

Pathology. from *Pathos* suffering & *Logos*, a word;

It is more necessary for me to speak of this as it is a century since any work has been professedly published on this subject. The work of Gaubius to which I refer is only interesting as it affords us the clearest exposition of the doctrines of the Humoral pathology - Pathology is derived from the two Greek words signifying a discourse or dissertation on disease; In a more modern acceptance of the term its signification is more extensive, comprehending the causes, nature, difference, seats, signs and effects of every morbid affection of the body. It is the theory of the diseased condition of the body differing in this respect from physiology which notices the functions of the body in a healthy state. In some respects, I shall depart from the usual course and shall at present confine myself to the general causes of disease omitting any more particular observations till I come to speak of the individual diseases when their connection will be better noticed and the whole be rendered more interesting - - -

Of the Causes of Disease, These are technically divided into the remote, the predisposing, the occasionally or exciting cause and the proximate, by the Remote cause is meant whatever produces a predisposition to disease, by the exciting that which immediately brings on the proximate which Last has been defined to be by Gaubius. "*Ipse morbus*" which definition has been adopted by Dr. Rush, As an illustration we may trace them in the rise of an inflam^y fever, The Cold is a remote cause, this induces debility which is predisposing, The warmth of a room or any other stimulus is the exciting cause of the disturbed condition of the bloodvessels which is the proximate cause. From this View we may see that there are in reality but two causes the predisposing being the effect of the remote and the proximate the effect of the exciting

cause, some diseases have but one cause only as small pox, Syphilis, 77
hospia, Tetanus, can we not trace the disease of the virus communi-
cated or to the injury of a nerve without any debility? also what hap-
pens when poisons are swallowed? The disease immediately from
the remote cause commences its ravages without the intervention of pre-
disposing or exciting causes, Although these are not sufficiently
numerous to overthrow the general arrangement, yet they suffice to
show that there are exceptions and that the division is not of universal
application. The Remote Causes are inherent or External, The former con-
sists in natural or acquired deformities of the body, as a narrow chest,
distortion of the spine an enlarged head &c. Hereditary predispositions
also often exist, The diseases propagated in this manner are gout,
Epilepsy, Mania, scrofula, Rickets and Consumption -- Many
speculations have been advanced to ascertain in what this depends, This inter-
esting inquiry has been variously answered, It has generally been attribu-
ted to ancestral Contamination, but this is no explanation it is
altogether vague and arises from humoral pathology of vitiated fluids;
but even admitting (as I am by no means willing to do) that there is no cor-
ruption of the fluids in scrofula and Consumption, It can scarcely be con-
tended that this is the case of epilepsy or Mania. All we know is that
children most resemble their parents in external character, also poss-
ess their peculiarities of constitution and have a particular aptitu-
de for disease by inheritance, There are other states of the system which
are regarded as predisponent, these are called Temperaments.
They are four in number, The sanguineous, Bilious, Phlegmatic
and Melancholic, much discussion has existed in the theory of these,
The ancients thought that they depended on the proportion of different
fluids, as the sanguineous had an excess of blood in their Vessels.

The Bilious had a predominance as to bile, The Phlegmatic had too much phlegm, and the Melancholic were rendered so by the presence of black bile - Boerhaave entertained similar views, but as our knowledge increased, our notions became more correct and at present, it appears that the temperaments depends on an irregular state of the solids and fluids. Modified by moral and intellectual sentiments of each of these we have certain characteristics, marks derived from the figure, face &c. so that they can be distinguished by external appearances, thus the sanguineous have a clear florid complexion, a sprightly blue eye an agreeable figure and ardent temper and flaxen or chestnut coloured hair, these are predisposed to active hemorrhages and to violent inflammatory diseases. The Bilious temperament is marked by a brown or yellow complexion, eyes hazel, hair black, subcutaneous vessels full and prominent, body fleshy, muscles firm, figure manly, the countenance manly animated, not sprightly as in the sanguineous, the temper obstinate and unrelenting, bold and daring, this acts as the predisposing cause as the name imports, to bilious diseases, to obstructions of viscera, to Intermitt. or Remitt. fevers, Cholera &c. It has also been termed the choleric as persons of this temperament are generally of an irritable temper and have an increased secretion of bile. The Phlegmatic, called also Petulant and Sympathetic, in this the skin is smooth and white, the flesh soft and flaccid, sandy coloured hair, a plump figure having no expressions either as respects the body or countenance, not tall but corpulent & clumsy, pulse weak and slow and other marks of debility, this is the predisposing cause to glandular complaints, to diseases from obstructions, to dropsy, to cutaneous affections &c. The Melancholic is an excess of bilious temperament it is characterised by the signs there mentioned the skin becomes more sallow, the body emaciated, the eyes sallow and the whole countenance is gloomy

and morose, the temper is petulant and fretful, morose and gloomy, this 81
predisposes to visceral obstructions, to hypochondria, to melancholy &c.
These temperaments may therefore be considered as predisponent causes to
many diseases, but they vary at different periods of Life and under differ-
ent circumstances, thus the sanguineous belongs to youth and to high
altitudes who are therefore subject to inflammatory diseases. Bilious ap-
pears in manhood and in warm climates, the Phlegmatic in low flat
countries. The Melancholic is more common to old age; Besides these there
are other states of the system which may be regarded as predisponent causes
and which vary at different periods of life, thus in some children from 6
to 8 years of age what may be called the cephalic temperament prevails when
they are subject to Hydrocephalus, delirium, convulsions &c. These have
great vivacity of temper and intellect, this temperament appears to re-
turn in many cases, in the decline of Life bring on palsy and apoplexy.
also in persons of a studious and sedentary habit, other children have
a pectoral or bronchial temperament; these possess an unvarying ap-
titude from slight remote causes to diseases of the trachea or Lungs as
croup, Catarrh &c. others from 8 to 12 years of age have a glandular
temperament, are subject to enlargement of the tonsils accompanied with
fever &c. others have a Hemorrhagic temperament in which generally a-
bout puberty they are subject to hemorrhages especially from the nose at
adult age this disappears and is succeeded by headache, on this temp-
erament depends the connection of the uterine system in females
with their general health. Some of these are very subject to uterine hem-
orrhages, which appears on every attack they have of fever. Adults
especially females often have a nervous temperament, they are subject
from very slight causes to agitations, convulsions, tremors; In feb-
rile diseases they are troubled with similar circumstances.

and more, the paper is white and the ink is black. The paper is of a good quality and the ink is of a good color. The paper is of a good weight and the ink is of a good thickness. The paper is of a good texture and the ink is of a good consistency. The paper is of a good size and the ink is of a good shape. The paper is of a good color and the ink is of a good tone. The paper is of a good quality and the ink is of a good color. The paper is of a good weight and the ink is of a good thickness. The paper is of a good texture and the ink is of a good consistency. The paper is of a good size and the ink is of a good shape. The paper is of a good color and the ink is of a good tone.

There is another Temperament occurring especially in man which may be call^{ed} 83
ed the pulmonary; these are subject to pleurisy, peripneumony, &c. Another
the Rheumatic which predisposes to inflammatory affections of the muscles &
joints; I have known persons who suffered in this respect from the least change
of air or exposure to damp. The Intestinal Temperament is another which
brings on from trivial causes various diseases of the alby. canal especially
of the intestines as obstinate constipation, dysentary, Diarrhoea &c. also
flatulency & dyspepsia, especially in females. The menstrual function
in females may be considered a predisponent cause, whatever may be the
masculine boldness and hardiness of females in savage life; In the civil-
ized state of society it is far different at the period of the menstrual discharge.
Females are generally more or less sick in some this is always the case being
accompanied with nausea, griping, colic and slight fever &c. At this
time cause, at other times innocent prove very injurious, females them-
selves are very sensible of this and are always careful of themselves at
this period, hence whenever you are called to an adult female endeavour
to obtain every information on this point. Before leaving this subject of
temperaments we may observe that the four primary temperaments
may be distinguished by external marks, but the secondary ones can-
not. They must be discovered by actual observations of the patients cons-
titution and not by the changes it undergoes in different circumstances.

Having thus noticed the circumstances of internal causes of disease
we shall now mention some of the more important external or adventitious
causes which will be found hardly less prolific than the former, the first
is the atmosphere, here you will immediately perceive, that it is only by
accidental circumstances, that it becomes injurious, in itself it is in-
noxious: of these circumstances Heat and Cold are the most im-
portant. From the dawn of medical science to the present day, the

The first of these is the fact that the
 the second is the fact that the
 the third is the fact that the
 the fourth is the fact that the
 the fifth is the fact that the
 the sixth is the fact that the
 the seventh is the fact that the
 the eighth is the fact that the
 the ninth is the fact that the
 the tenth is the fact that the
 the eleventh is the fact that the
 the twelfth is the fact that the
 the thirteenth is the fact that the
 the fourteenth is the fact that the
 the fifteenth is the fact that the
 the sixteenth is the fact that the
 the seventeenth is the fact that the
 the eighteenth is the fact that the
 the nineteenth is the fact that the
 the twentieth is the fact that the
 the twenty-first is the fact that the
 the twenty-second is the fact that the
 the twenty-third is the fact that the
 the twenty-fourth is the fact that the
 the twenty-fifth is the fact that the
 the twenty-sixth is the fact that the
 the twenty-seventh is the fact that the
 the twenty-eighth is the fact that the
 the twenty-ninth is the fact that the
 the thirtieth is the fact that the
 the thirty-first is the fact that the
 the thirty-second is the fact that the
 the thirty-third is the fact that the
 the thirty-fourth is the fact that the
 the thirty-fifth is the fact that the
 the thirty-sixth is the fact that the
 the thirty-seventh is the fact that the
 the thirty-eighth is the fact that the
 the thirty-ninth is the fact that the
 the fortieth is the fact that the
 the forty-first is the fact that the
 the forty-second is the fact that the
 the forty-third is the fact that the
 the forty-fourth is the fact that the
 the forty-fifth is the fact that the
 the forty-sixth is the fact that the
 the forty-seventh is the fact that the
 the forty-eighth is the fact that the
 the forty-ninth is the fact that the
 the fiftieth is the fact that the
 the fifty-first is the fact that the
 the fifty-second is the fact that the
 the fifty-third is the fact that the
 the fifty-fourth is the fact that the
 the fifty-fifth is the fact that the
 the fifty-sixth is the fact that the
 the fifty-seventh is the fact that the
 the fifty-eighth is the fact that the
 the fifty-ninth is the fact that the
 the sixtieth is the fact that the
 the sixty-first is the fact that the
 the sixty-second is the fact that the
 the sixty-third is the fact that the
 the sixty-fourth is the fact that the
 the sixty-fifth is the fact that the
 the sixty-sixth is the fact that the
 the sixty-seventh is the fact that the
 the sixty-eighth is the fact that the
 the sixty-ninth is the fact that the
 the seventieth is the fact that the
 the seventy-first is the fact that the
 the seventy-second is the fact that the
 the seventy-third is the fact that the
 the seventy-fourth is the fact that the
 the seventy-fifth is the fact that the
 the seventy-sixth is the fact that the
 the seventy-seventh is the fact that the
 the seventy-eighth is the fact that the
 the seventy-ninth is the fact that the
 the eightieth is the fact that the
 the eighty-first is the fact that the
 the eighty-second is the fact that the
 the eighty-third is the fact that the
 the eighty-fourth is the fact that the
 the eighty-fifth is the fact that the
 the eighty-sixth is the fact that the
 the eighty-seventh is the fact that the
 the eighty-eighth is the fact that the
 the eighty-ninth is the fact that the
 the ninetieth is the fact that the
 the ninety-first is the fact that the
 the ninety-second is the fact that the
 the ninety-third is the fact that the
 the ninety-fourth is the fact that the
 the ninety-fifth is the fact that the
 the ninety-sixth is the fact that the
 the ninety-seventh is the fact that the
 the ninety-eighth is the fact that the
 the ninety-ninth is the fact that the
 the hundredth is the fact that the

85
effects of a heated atmosphere have been universally confessed. In the minds of the poets who were accurate observers, a burning sky and the devastation of disease were intimately associated. The fact of the morbid influence of a heated atmosphere is too well attested to need much confirmation. We see it in our own climate and still more clearly in tropical countries. If an inhabitant of a more northern country should visit us during our temperate seasons he will not be injured but if he comes during the heat of our summer he suffers severely, the effects of heat in these cases are very intelligible, it is a direct stimulus which is quickly succeeded by debility as is well exemplified in a stroke of the sun; from this arises every diversity of fever as also the various forms of intestinal and cutaneous affections, the affection of the blood vessels shew themselves in apoplexy and hemorrhages and other similar diseases. A cold Atmosphere is also a fruitful source of disease, it is most hurtful after exposure to heat; thus the sudden change from hot to cold weather produce in this climate more diseases than all other causes united. In a low state of the atmosphere the system becomes gradually depressed and is more liable to suffer from causes otherwise harmless. When cold is suddenly induced it becomes a stimulus and exciting cause to a multitude of diseases, thus while the influenza, yellow fever or any other Epidemic is raging the constitution becomes impregnated with the poison, this is excited into action by a sudden change of the weather from hot to cold which speedily swells the bills of mortality. Like heat it forms the exciting cause of Pestilential diseases. Dr. Heberden long ago observed that in severe and long protracted cold some new epidemic often made its appearance or existing one assumed a more aggravated form this has been confirmed by other writers in different countries. It has been seen in the north of Europe and in the U. States: the late Epidemic which has lately desolated various portions of our country

maybe clearly and distinctly ^{traced} to cold as favouring its origin and con- 87
tinuance; Heberden's remarks on this subject are very conclusive, the popu-
lar opinion that cold weather is conducive to health is certainly errone-
ous, and I have always found cold weather enlarges the number of my pater:
Much has been said of late years of the humidity of the atmosphere being
the cause of diseases, many have thought that it has great influence, that
it is even more injurious than heat or cold and popular prejudice supports
this opinion, no one can deny that sudden transactions of every kind are
injurious, by that Law of economy that new impressions induce new act-
ions and when suddenly made excite many morbid phenomena. How
far a climate permanently moist is injurious is doubtful, but I am in-
clined to believe that the health, strength, and ~~origin~~ of the constitution
are increased; this I could substantiate by various arguments, but
at present will only observe, that by tracing the history of various coun-
tries we will find that in moist, damp, foggy climates the inh-
abitants are strong and vigorous, while those who are living in
more pleasant countries are weak and puny. The Hollander in
his marshy plains is less subject to disease and acquires a strength
of muscle and firmness of body unknown to the sickly, the cadaver-
ous Italian who dwells under a sky of perennial brightness -
The striking analogy which exists between animals and vegeta-
bles renders it probable that moisture is as necessary for the form-
er as for the latter and I think it will be found that a certain degree
of it is necessary for both. I do not wish any thing I have said to be con-
sidered as opposing the opinion that moisture under the circumsta-
nces which in this climate usually attend it, is a frequent cause
of disease, but it should not be carried too far; some diseases which
were formerly supposed to be injured by humidity are now found to

A pestilential fever broke out at Copenhagen after a very dry &
 hot season - many other facts related -

be benefitted by it; of these is pulmonary consumption, Half a century 89
ago Dr. Bond of this city, a great innovator in many branches of medicine, among other novelties sent his patients to the marshy shores of the Seta-
ware, where they were benefitted and, sometimes greatly relieved especially if they were affected by the fever and ague, in this acting directly opposite to received opinions, I have lately received a work from
England in which the same practice is recommended by Dr. Young, after an experience of 30 or 40 years; this Gentleman has never heard of Dr. Bond's practice. Dryness of the atmosphere, has also been mentioned as a cause of disease. In the sandy Deserts of Arabia where the air has all its moisture absorbed by the burning sands, great inconvenience is experienced, It quickly dries the moisture of the body so completely that the skin becomes hard, stiff and constricted like parchment, the Lungs are also affected so that the natural secretions are evaporated and a sense of constriction and suffocation ensues, to prevent this it is necessary to keep a wet sponge constantly applied to the mouth. In this country very dry weather is generally salutary, as we are then exempt from the exhalations produced by heat and moisture. I think however that some of our very hot weather is hurtful by inducing debility. Of late the rarefied condition of the atmosphere has been much insisted on as a source of disease. It is found on mountains and other elevated situations the corporeal and mental powers greatly suffer, De Pauvre has described the circumstances very accurately and from his account chiefly, I have selected what I have to say on this subject. he states that after a certain height a sudden & uncommon exhaustion of the muscular power takes place; that even the natives of the Alps are forced every 15 or 20 minutes to stop and take breath and that those who are unaccustomed to this atmosphere must rest more frequently and sometimes unable to proceed; the atmosphere cause their legs to sink under them, their

breathing becomes short, the heart palpitates, the head becomes giddy and 91
the person is found to stop in ascending mount Blane he could not ad-
vance more than a few steps and would have to delay sometimes for a long
time; this was not confined to men, the mules which conveyed their baggage
suffered in a similar manner, they staggered panted and breathed with
difficulty, appearing to be in pain as they uttered plaintive cries, In these ca-
ses the pulse was accelerated as well as respiration, great thirst was in du-
ced, sickness, a loathing of food, and an aversion to spirituous liquors,
what was very extraordinary all these symptoms were short as they were viol-
ent; rest for a few moments gave so much renovation, that no fatigue was
perceived, after walking again for a few moments the whole would recur,
and would again be arrested by rest. one effect also to be mentioned is
the tendency to sleep, if when at rest the attention was not engaged sleep
would come on immediately and in some cases amounted almost to
Lethargy. The Aeronauts experienced the same effect, as also did Baron
Humboldt in his travels on the Andes, but in some respects more violent
as hemorrhagies frequently took place from the nose and mouth, the eyes had
a red inflamed appearance. Two Italians who ascended in a
balloon declare that at 9 miles they were nearly killed: one after great
sickness and difficulty of respiration fell into a Lethargic slumber. The other became
much bloated and distended. nothing has the effect of preventing or reli-
eving the symptoms but rest and cold water, cordials and spirits aggra-
vate the whole. How are these singular facts to be explained? Partly by
diminished pressure of the atmosphere and partly by the deficiency of oxy-
gen, As I formerly shewed respiration requires two principals oxygen &
a combustible matter, the former enters by the Lungs, the latter by the stom-
ach, By the want of either of these nothing is more affected than the
muscular power; this is sufficiently evident in exercise where more oxy-
gen

is required than when in a state of rest and precisely the same effects are 93
produced by withholding either of these principles, such as fatigue, debility,
difficult respiration &c. varying however in different states of the system and
under different circumstances, In common atmospheric air the debilitated
muscular power is renovated by rest and by spirituous drinks which is no-
thing more than the combustible in solution. In a rarefied atmosphere as Bar-
on Humboldt has shown where there are only 16 parts of oxygen in the 100 and
consequently there is an over proportion of combustible matter in the body,
debility is alleviated by rest and aggravated by exercise, It is sud-
denly induced because respiration during exercise requires an increased
quantity of oxygen to carry off the combustible matter, but there is a less q-
uantity present, therefore a portion of combustible matter remains which
always induces quick effects such as depression of power, difficult
respiration &c. It is removed by rest, because the combustible ^{le matter} can then be ea-
sily dissipated and the cause being then removed, the body then re-
gains all its energy, The loathing of food and other marks of susp-
ended digestion is to be explained by the fact that oxygen is neces-
sary for digestion is to be explained by the fact that oxygen is necessary
and assimilation. The thirst arises from the profuse evaporation which
takes place from the surface of the body. the more numerous pulsations
of the heart are produced by its acting less vigorously as is seen under
usual circumstances. Another phenomenon to be noticed is sleep;
this we account for by the deficiency of oxygen. Sleep consists in a sus-
pension of the powers of the mind and body. The intellectual powers de-
pend for their action on oxygen is not altogether certain. The Experim-
ents of Lavoisier render it sufficiently probable that it is necessary for
the exercise of the mind, this is strengthened by the following considera-
tions. 1st The primary operation of the irrespirable gasses to produce he-
aviness & sleep.

③ Malaria - synonymous with measmata - First promulgated by
Lancisi, an Italian writer -

Experiments of Professor Salaria of Lyons; and those of De Lisle
were here quoted -

Opinion of Ferguson.

2nd During digestion there is an inclination to sleep or the senses are dull 95
and inactive. 3rd The same effect is produced by external warmth which
lessens the consumption of oxygen: But while we thus explain these several
effects on chemical principles we do not forget the vital power, as well, might
we impeach the existence of a Creator because we see that effects are
often produced by secondary causes, as to deny that the living body is under
the influence of the vital power because we must occasionally resort
to chemistry or mechanics to solve the difficulties which we occasionally
must meet with.

From the diseases which are produced by the sensible qualities of the
atmosphere we proceed to those which are caused by its vitiated condition.
The purity of the air is altered by various means, some of which render it
highly deleterious, the most important and universal of these is the Marsh-
Exhalation which in modern language is called Foetid miasmata. ③
What these exhalations are has not been precisely determined. The eudiometer
and other means do not ascertain any difference; we are however acquainted
with some of the circumstances and Laws which influence them, It
is subtle and poisonous matter arising from animal and vegetable matters
during putrefaction and requires a temperature of least 80 degrees of Fark:
when below this degree notwithstanding the humidity present, no injury
is propagated. It appears from a register kept in this city for 25 years that
the yellow ^{fever} never made its appearance unless the average heat of the atmos-
phere was very great, when the temperature was not equal to this average
degree there was no fever. When heavy rains ensue in marshy countries it
often happens that the inhabitants in the immediate neighbourhood es-
cape the autumnal fevers, while those on the high grounds were severely
handled, this is owing to the low parts being covered with water while
on the hills the water running off, effluvia quickly arise. Rains are

96 ~~Rain~~ completely covering the surface of the land prevents the emanation of noxious vapours -

Hot seasons are found most favourable to the production of miasmata -

Miasmata may be transmitted 8 or 10 miles - Bancroft limits them to $\frac{1}{4}$ of a mile -

The Pontine marshes lie 8 or 10 miles from Rome, and its inhabitants are visited yearly by diseases of this kind, which has been the case for above 2000 years -

The effluvia seldom rises to any considerable height. Yet high grounds are sometimes attacked -

Moisture assists the operation of miasmata.

De Lisle says the nocturnal dews are so much dreaded at Rome by the proximity of the Pontine marshes, that at the approach of evening the inhabitants shut themselves up in their houses -

97
often injurious by washing away the green pellicle which forms on stagnant waters, preventing the rising of the miasmata, they are hurtful by bringing down the effluvia which had ascended into the atmosphere - This is often experienced in several parts of our country. Cracks & Fissures are formed in the earth in consequence of rains through which morbid exhalations arise. The surface being very dry; but at a very little depth not only moisture but also water is frequently. As to the distance at which marsh miasmata will operate, there are different opinions. It is pretty well established that it is greatly influenced by the winds: as the disease produced by it occurs in the direction of the winds which are steadily directed to one quarter. They also occur in situations remote from the place where the miasmata arose even at the distance of 10 or 12 miles. That it occurs in the direction of the regular winds is well seen in some parts of the U. States, where the disease appears on the eastern side of the water courses, from the prevalence of the southern winds, and where its progress is checked by a northwesterly breeze. Moreover it is found where any obstacle checks the progress of the wind, the miasmata is also stopped. Thus rows of trees have this effect, as is very common on the Potomack and other waters by which places formerly unhealthy are rendered pleasant and salubrious, how long the system will remain under its influence before disease is produced is not determined, sometimes it remains for several days, weeks and even for 6 or 8 weeks according to Dr. Jackson. at other times or in different persons its effects appears in a few hours, no one will now maintain that it remains in the system all this time, but that a predisposition is formed waiting for an exciting cause to bring it into action. That this is the case we see in other diseases as small pox &c. Dr. Rush relates a case in which it was 60 days after the insertion of the variolous matter before the eruption appeared. I have known the vaccine virus to remain ineffectual for 3 weeks. the action of this effluvia is promoted by moisture and destroyed

In the summer of 1823 we had Inter mitt. fever on the banks
of the Schuylkill; Continued fever at Germantown; and
Dysentery at Frankford.

Malaria may be generated under the surface of the earth -
on high rocky places this is always the case, the miasmata es-
caping through the crevices in the earth -

by colds or heavy rains. That habit has great influence in rendering persons
99 less susceptible there can be no doubt, as we see new comers much more liable
to sickness, than the old inhabitants, who in some instances enjoy a total ex-
emption. Some writers have observed, that the constitution becomes so accus-
tomed to it, that it becomes one of the ~~stimuli~~ by which Life is maintained;
this they maintain by observing that old persons who are removed from such
situations speedily sink away. of this I have no experience, but have no
particular reason to deny it, as it rests on good authority and receives
some confirmation from analogy, we see that persons become so habituated
to the use of opium and acrid spirits that they can not do without them.
The influence of miasmata on the system is wide and pervading; every
part of the body is affected and numerous diseases are the consequen-
ces. I will not notice all of these, contenting myself by pointing out the
most leading ones. By it is produced every grade of Bilious fever, va-
rious intest^{al} disorders commonly arise from the same source, the dis-
eases of the liver and other glands. The various cutaneous eruptions espe-
cially those which appear in warm weather. That miasmata is alwa-
ys of the same nature cannot be ascertained in the present state of our
Knowledge. But I would venture to advance an opinion that they
are generally different. I presume that there are different grades of
miasmata; by one Intermitt. fevers are produced by a second Remitt.
fevers and by a third malignant fevers. It is contrary to the whole se-
ope of pathology that so many different diseases should be produced
by one and the same cause; on the contrary we always find that one
cause produces the same diseases, variolous matter the small pox.
The vaccine virus always the vaccine disease and so of others. Con-
trast with this the action of miasmata on the system we shall have
every diversified operation produced by it. By its affecting parts of a

Animal putrefaction not so often the cause of disease as is supposed.
~~By~~ The corruption of human bodies has long been considered very noxious.

Exhumations.

The celebrated Lawrence of St. Bartholomew's hospital told during 10 years attendance there, he never saw an instance of disease being produced by close attention to anatomical studies.

During 25 years connection with this university, I have never seen disease produced by dissection - Dr. Chapman.

Fish are left on the banks of our rivers, and spread over the sand, filling the neighbourhood with a very disagreeable stench, without producing any morbid consequences - Equally incapable does human exhalations appear -

Contagion & Infection. Contagion from Conting to touch; applicable to Poxa, Syphilis, &c. only acquired by contact.

Infection from Inficio to infect - acquired through the medium of morbid impregnation of the atmosphere - Small pox - Typhus fever - Small pox is both -

different structure we may account for some of these, as the diseases of the bowels from those of the blood vessels, but it affords no solution in case of fevers, where although existing in the same system they are essentially distinct. The Exhalations from the Human Body are another source of corruption to the atmosphere, these are in modern nomenclatures termed Idiomiasmata. They are produced by all the secretions and excretions, whether in a state of putrefaction or vitiated by digestion. The exhalation from the ^{surface} perspiration is the most fruitful of these sources of diseases. It is understood that the Linen of healthy persons when much imbued with perspirable matter has excited fever in females who have washed it. Those produced by these miasmata are chiefly the Low Typhus or jail fever; as also dysentery in a low form, they diffu from the marsh miasmata in impregnating the atmosphere but a few feet. Dr. Hays gauth from his experiments with the Typhus limits it to 8 feet, I have seen similar experiments performed by Dr. Gregory at Edinburgh where 10 feet appeared to be the distance beyond which infection would not take place, but although impregnating for so short a distance yet it is very tenacious to substances which have been affected by it especially cotton and wollen clothes, adhering to them for weeks and months, also to wood and stone walls remaining in them for a long period. In one of the Hospitals of London it is said to have remained for years in the walls. Rooms under such circumstances should be white washed, which is considered as one of the corrections of this miasmata. The earth does not retain it in this manner, therefore in camps, ground floors should be preferred to wooden ones, from a neglect of this much disease has been generated. It diffus from the marsh effluvia in being most active in cold weather, as we see the Low jail and Hospital fevers appearing in winter, as also was the case in our camp fevers; so also in the West Indies, those

Contagion never can be considered as the cause of a wide prevailing Epidemic. They proceed like radii from one point.

Dr. Chapman thinks it probable that all contagious diseases were produced by crowding people together.

Depraved diet is a fruitful source of pestilential diseases. Mouldy bread, cheese, Ergot, &c. see page 113.

Epidemic diseases do prevail independent of any sensible quality of the atmosphere - I think Electricity exercising considerable influence in affecting atmospherical changes - We know not by what means it operates -

Epidemics sometimes attack inferior animals - Many cases of this kind related - The Bible gives many facts in support of this - Ancient history abounds with similar facts.

Sometimes preceded by swarms of flies - spiders, Mosquitoes - &c. which were supposed to be the cause -

A few weeks previous to the appearance of an epidemic all diseases are suspended - exemplified in the yellow fever of 1793.

low fevers very rarely appear. The reason of this is obvious: in warm weather the windows are thrown open, the usual means of ventilation are assiduously employed so that the noxious vapours are removed. In cold weather on the contrary everything is closed, the corrupt atmosphere is breathed by all and it is not to be wondered that sickness is the consequence. There are other causes of the contamination of the atmosphere, but these will be noticed at a future period. I must however make some observations on Epidemics. — Epidemics are diseases of general prevalence which have great similarity in their symptoms. Much attention has been paid to their causes, some assert that they have originated from a single cause while others maintain that it is a combination of many. Some have been attributed to a vitiated atmosphere connected with its temperature, but some are too rare and spread destruction too wide to be attributed to any accidental contamination of the atmosphere. Many authors have attributed them to a morbid condition or inflammatory state of the atmosphere. But without any substantial reason it has lately been attempted to prove from the history of different countries that Epidemics have originated from some great disturbance of the regular routine of nature. — as the rupture of Volcanos, ^{eruption of} Earthquakes, ^{coming of} Comets, ^{violent} tempests &c. I am not prepared to speak positively on this point, whether the opinion be well founded or not, many of the facts are strong and plausible, but at any rate it can form but the first Link in the chain of causes and will afford no solution to our difficulties. As to the Laws of Epidemics they are nowhere embodied but must be collected from observation and from the writers on these subjects particularly Hippocrates, Sydenham and Rush. The first Law to be mentioned is that no two diseases of equal force can exist in the constitution at the same time. The exceptions to this are very rare, perhaps only occurring when both

③ "Enter like a lion and retire like a lamb?"

diseases are feble. An Epidemic has long ago been called by Sydenham 105
a monarch giving to every disease its particular living - when it does not succeed in
driving it from the system, it forces on it, its own characteristic symptoms. this is
nothing new it has been remarked for a long time & has been exemplified in the
epidemic of our own country, the yellow fever ~~makes~~ every disease by some gas-
tric uneasiness which is one of its characteristic symptoms. The Typhus gave
different shapes to our diseases and rendered it necessary to adopt an entirely
novel practice; so that bleeding was not neglected and with such suspicion
was this remedy regarded, that when our purely inflammatory diseases occur-
ed we would not venture with our usual confidence in the use of the lan-
cet -

2nd Epidemics by their continuance become moderate are overcome
and expelled, they advance with the devastating violence of a savage
host, but retreat with the mildness of a civilized and polished people ③

3rd Law. They are influenced by the sensible quantities of the atmosphere
as well as by many other causes. It is on this account that the same disease
varies so much in its character and this is the true explanation of the dis-
cords, which have so unhappily prevailed in medicine. The yellow fever ne-
ver appeared exactly under the same form, neither did the Typhus, but
varied in its character in the various sections of our country -

4th Law. Though appearing in the same place yet the symptoms varied in
different persons and even in the same person according to the parts it at-
tacks, when the blood vessels are affected we have every variety and grade of
fever; when the alimentary canal all the forms of intestinal disorders were
displayed; when the brain and nerves were attacked, apoplexy, palsy,
tremors and convulsions were the consequences; but always remember the
usurping power of an Epidemic, that it gives even character to every
disease, thus our treatment in Dysentery when under its influence, must be
directed to the prevailing disease, otherwise our success will be very small.

5th Law

sometimes attacks people of one colour; sometimes of one sex; sometimes of one particular rank.

6th Law. two epidemics of the same character hardly ever occur twice in succession.

so true is this that even chronic diseases as consumption and Dropsy were 107
influenced by it and must be treated accordingly these are some of the
most important Laws on this subject, but for the particulars we must refer
you to the writers above mentioned. We proceed now to other circumstances
influencing health. The Effects of Different situations in this respect are
material as between a city and country residence, each of these present
some cause of disease, perhaps it is a point sufficiently ascertained that the
country is healthy in proportion to its improvement, when however only partially
cleared, it suffers the pestilential Vapours which had before been concealed
by the rubbish of the forest to rise from their marshes; so that the most opposite
States of a country are the most healthy; A dry, sandy soil is most favourable
to health, here however the heat reflected from the sand produces several Com-
plaints especially the opthalmic. Clayer countries are unhealthy, as well
from the moisture which covers them as from the impurity of the atmosphere,
the clay absorbing the oxygen in large quantities. As a general rule m-
ountainous and hilly parts are the most healthy: to this there are numerous
exceptions, one very important one is that the miasmata from the low gro-
unds of the neighbouring parts settle upon them, Every one knows that prox-
imity to the sea shore is unfriendly to health especially to Consumptive parts.
The reason of this is not obvious, some have attributed it to moisture, and
others to saline particles floating in the atmosphere, if this were the expla-
nation we should find sea voyaging very injurious, which is not the case.
It is more probable it is owing to a combination of sea and Land air -
as we observe that mariners as soon as they come within four ding dis-
tance are affected very generally with coughs and other catarrhal
affections which they call the Land cough and it is to them certain
signs of the approach of Land. In Europe the cities are very unhealth-
y, it is computed that more than $\frac{1}{2}$ the children die before the 3^d year

but in the country $\frac{1}{2}$ of them live to the age of 40 years. In London it is 109
said that $\frac{1}{19}$ of the whole population die annually, in the country not
more than $\frac{1}{50}^{\text{th}}$ of the whole making a great balance in favour of a
country residence. In this country our cities are not so unhealthy, this
city from its neatness enjoys as great an exemption from disease, as
any place whatever under a similar climate and it is certain that
all our cities are more exempt than those of Europe. A Considerable
change in situation will be likely to prove a cause of disease, nothing
is more common than for strangers to be taken sick in their new resi-
dence, and it has been remarked that persons removing from a sickly to
a healthy situation are very liable to disease, I have already mentioned
old persons removed from low unhealthy situations to high and healthy
ones speedily sink away, this I suppose must arise from a pre disposition
having been founded which was brought into action by numerous ex-
citing causes incident to a new situation - our Dwelling hous-
es, have a great influence on health from being made of too green ma-
terials, or by our entering them before they are dry, from this circumstance
alone, not a few of our consumptions and chronic bowel complaints are
produced; trees closely surrounding our dwellings are injurious by pre-
venting the circulation of the air and from the dampness they induce -
Damp-cellars and many other circumstances are fruitful sources
of noxious exhalations. The students of a foreign university were suddenly
taken, very generally sick, while the inhabitants of the city remained free from
disease: on enquiry being made it was found owing to a quantity of putre-
fying potatoes - whenever therefore we are called to a family remarkably
unhealthy, direct that the house should be strictly ~~peracted~~ strictly
scrubbed, as in many cases disease may be speedily removed by taking
away the offensive matter - Duff becomes injurious from its quality,

quantity and fashion. From its quality in becoming the repositories of ¹¹¹four accumulations of perspirable matter, on this account wool, silk and cotton are preferable to become next the skin, flannel is also very excellent whether it be wet or dry. It has proved very useful in preserving the health of armies, for the discovery of which we are indebted to Count Le Sack who found that the troops while in Flanders could be preserved from the ravages of fevers, dysentary &c. by substituting flannel for linnen shirts. Sir John Pringle confirms the observation and it was happily substituted in our Revolutionary war for linnen, when in conjunction ^{with} changing wooden for ground floors was very beneficial. Linnen should be altogether excluded, as it becomes very soon dirty and when wet renders the person cold and uncomfortable — 2nd As to Quantity dress is injurious in not being adapted to the weather and is generally too light, there is nothing more important than an exact graduation of dress to the varying states of the weather — 3rd Fashion has a predominant influence over dress and is generally very hurtful. The tight Ligatures usually made on different parts of the body, are very injurious. Thus a tight Ligature round the neck induces vertigo and apoplexy; a tight night-cap; headache; tight garters, diseases of the legs; but nothing is or can be more injurious than the tight corsets of our females; I have known them induce syncope, dyspepsia and various gastric diseases, scurvy of the breast and pulmonary Consumption; many are the unhappy terminations of this preposterous fashion — It would be interesting to trace some of our present fashions to their origin and we may observe that we imitate too much the fashions of Europe, not attending to our climate or examining whether they are likely to prove injurious or not. — The fashion of powdering the hair originated in Poland, the nobility of that country had recourse to it, to hide their diseased and filthy heads being

@ doubtful -

afflicted with the *pliea polonica*. The Large neck-cloth was intro-¹¹³
duced by the family of George the 3rd in order that the scars on their necks
from scrofula might be hidden. The fashion of the modern boot is well
known to have been introduced by the family of Charles the 1st of England
to hide the deformity of their Rickety Legs. The Modern Corsets which
were always viewed as the disgrace of the English Court were introduced
by Queen Elizabeth to conceal an illegitimate pregnancy.

In continuing to enumerate the causes of disease we shall now men-
tion the effects of Diet, this proves injurious in several modes; there are ma-
ny articles which are used by most persons as common articles of food and which
prove to them very pleasant and salutary that cannot be taken by others
without very injurious or unpleasant consequences, this is the case some-
times with milk, honey and other unusually mild articles. These particular
idiosyncracies should therefore always be consulted and care taken to ascer-
tain them. Diet which in a moderate quantity would prove healthy, when
taken to excess is often very hurtful; many are the diseases which are pro-
duced by debaucheries; all the diseases arising from plethora as apoplexy,
palsy &c. also Dyspepsia, Diarrhoea and various cutaneous diseases
are its consequences, to which are to be added, drowsiness, dullness and
enervation of the intellectual powers, on the contrary too little food is pro-
ductive of various disorders, especially the alimentary canal; as also
emaciation, slow fever, debility, & numerous cutaneous affections -
What portion of food is necessary cannot perhaps be exactly determined,
much depending on the nature of the article and the habits of the person.
It has been loosely estimated at 6 or 8 lbs of Solids and fluids in the 24
hours, but $\frac{1}{2}$ that quantity will sustain some persons in all the plenit-
ude and vigor of health. During fevers and other diseases the patient eats
little or nothing; here he is sustained by the stimulus of the disease, and

by his medicine - Cases of protracted disease have occurred in which 115
hardly any thing was taken for months - Haller relates numerous ca-
ses of long fasting by persons in health; most of these were under the in-
fluence of some strong mental excitement, many were carried away by
religious enthusiasm, by which and by some fluids which they occa-
sionally swallowed life was supported: they found it easier to bear the
pains of hunger than of thirst - Food not only by its quantity but also
by its quality may prove the cause of disease - Thus we may refer to this
cause chiefly some of the diseases which appear in besieged cities as
Dysentary, Diarrhea, Malignant fever &c. also eruptions on the skin, but
this is not confined to the military life; by rain and humidity the corn
is sometimes so damaged that when eaten it produces diseases which
devastate whole tracts of Country, In this way Ergot or diseased Rye
has spread destruction through France and Germany, also in some
parts of our own country - Too bad as well as scanty diet we are to attrib-
ute the many diseases which prevail among the poor in large European
cities; this is not so evident in our own country, but no inconsiderable
share of our autumnal and other fevers is to be attributed to the eating
of unripe fruits - To this also we are in a great measure indebted for
Cholera and many other diseases. To this head, to the quality of our food
we must also refer bread partly baked and meats not well cooked - These
are very difficult of digestion and of course produce various intestinal
complaints. Food too highly seasoned when freely indulged in and
employed for a long time is a fruitful source of many complaints of
which Gout is one of the most important diseases of the digestive or-
gans, and loathsome cuticular complaints chiefly of the inflamm-
atory kind are also produced - Another reason why highly seasoned food
is injurious, is that it is necessarily associated with strong stim-
uli

117
it induces a thirst which is not to be quenched by water, making it
necessary to resort to malt Liqueurs, wine, & even ardent spirits: these are
of themselves injurious, much more so when combined with high seasoned
food. Food is also injurious by being taken at unseasonable times and not
adapted to the age of the person. The diet of an infant should be different
from that of a youth and this should also vary from that of an adult,
a regular gradation should be observed, the kind and quantity should
be adapted to the strength of the digestive organs. Diet should also
be accommodated to the season of the year and to the climate. In the
Temperate Zone where the climate is so variable the diet should be accom-
modated to the circumstances. During the cold winter months, animal
food and even a little ^{wine} is almost necessary. During Spring and Summer
months the diet should be changed; lighter articles as vegetables should
be employed and also less stimulant beverages much depends also on the
time of the day at which meals are taken. The greater number of persons
perhaps the majority cannot use the same food 3 times a day without great
inconvenience. Hot meat suppers are very injurious producing plethora &
consequently - apoplexy &c. Dr. Rush after an experience of near 50 years
observed that he was seldom called to an adult at night but for some disor-
der originating from hot meat supper, It is necessary that the supper and
breakfast should be different even for the former animal food is not
to be allowed in large quantities. It must be acknowledged that hab-
it has great influence, our present regulations as to meals might be
easily overturned, and it is probable that nature unrestrained by fash-
ion, would point out the morning for the beneficial meal, see what
was said under the head of digestion; the digestive powers are always
stronger in the morning than at night, the last century has made
a great change in our diet owing to the introduction of Tea and Coffee

for more substantial substances, these articles are very injurious; to them 119
are we to attribute most of the causes of Hysteria, Nervous tremors, head-
aches &c. &c. they operate however slowly and insidiously & are seldom sus-
pected, my impression is that a large majority of the nervous affections can
be directly traced to the use of Tea and coffee. I have never cured a
case of Dyspepsia when these articles were allowed. "They are slow poisons."

As causes of disease we must next mention our DRINKS. They are
very diversified but of all pure water is the most salutary, this is in-
jurious however when too cold inducing spasms and often instant death
also when taken in large quantities or at improper times, some persons
drink freely in the morning, at their meals and at bed time which
custom debilitates the stomach destroys the appetite and brings on all
the evils of depraved digestion. water is hurtful from admixture with
extraneous matter, It suffers in this way very much in large cities from
privies and common sewers, our city has been greatly benefitted by the
introduction of the Schuylkill water as it is a fact that certain diseases
which could formerly be traced to the use of our pump water, have greatly
diminished and probably will wholly disappear, more hurtful is the em-
ployment of stimulating drinks, this is a very universal custom. There is
no nation but what has some favourite stimulating beverage. It seems
as if the love of stimulating drinks was interwoven with the nature of man
and it is not probable, that all the divines and physicians can say will
ever deter mankind from indulging in this favourite propensity, nor
am I persuaded that it would be right to do so, wine is a very useful
medicine and one which cannot be well laid aside, and even in health
when moderately employed it gives energy and tone to the corporeal and
mental faculties, when carried to excess its effects are most horrible, Gout,
visceral obstructions, dropsy, nervous tremors are no unusual conseque-
nces.

The first of these is the fact that the
 number of the series is not a constant
 but varies with the value of the
 parameter λ . The second is that the
 series is not a simple power series
 but a series of the form $\sum_{n=0}^{\infty} a_n x^n$
 where a_n is a function of n and λ .
 The third is that the series is not
 convergent for all values of x but
 only for values of x such that
 $|x| < 1$. The fourth is that the
 series is not a simple power series
 but a series of the form $\sum_{n=0}^{\infty} a_n x^n$
 where a_n is a function of n and λ .
 The fifth is that the series is not
 convergent for all values of x but
 only for values of x such that
 $|x| < 1$. The sixth is that the
 series is not a simple power series
 but a series of the form $\sum_{n=0}^{\infty} a_n x^n$
 where a_n is a function of n and λ .
 The seventh is that the series is not
 convergent for all values of x but
 only for values of x such that
 $|x| < 1$. The eighth is that the
 series is not a simple power series
 but a series of the form $\sum_{n=0}^{\infty} a_n x^n$
 where a_n is a function of n and λ .
 The ninth is that the series is not
 convergent for all values of x but
 only for values of x such that
 $|x| < 1$. The tenth is that the
 series is not a simple power series
 but a series of the form $\sum_{n=0}^{\infty} a_n x^n$
 where a_n is a function of n and λ .

while the mind also is weakened by its beneficial influence —
Malt Liquors as causes of diseases are less injurious than ardent Spirits, but they are not suited for the sedentary or for those disposed to pulmonary consumption, to Gout, or to calculous affections, their influence in favouring calculous complaints, has been denied — by the famous Lithotomist says out of 1400 patients on whom he operated, not one employed these liquors for their ordinary drink — Haller and Sydenham confirms this opinion the latter of whom from his own personal experience maintains that beer is one of the best articles for preventing bloody urine from calculous, At this period however the General opinion is that they favour the production of calculi, and it will be most prudent to forbid them under these circumstances. What shall I say of ardent Spirits? they are so familiar to us and are so well known that it would be useless to point out their baneful effects which are so generally acknowledged — Next to diet we are to consider Sleep and Watching, The abuse or excessive indulgence in sleep relaxes and enervates the body and destroys the keenness of the mental faculties; impairing both the vigor of the mind and body, it prepares the way for numerous diseases — Cases have occurred in which indulgence of sleep has ended in complete fatidity, it predisposes to obesity and fullness — Excessive Watching is also very injurious it prevents the renovation of the animal powers, exhausted by the labours of the day impairs the appetite, produces emaciation, weakens the mind and has even proved the cause of Melancholly and of the furious forms of insanity and various nervous affections; a proper portion of sleep is necessary for all persons, but for children more is required than for adults, excessive indulgence in sleep or excessive watching are alike injurious —

A proper regulation of motion and Rest is also necessary, excessive motion is the cause of many complaints, It induces fatigue, in cold weather Rheumatisms and other inflammatory diseases. In Low marshy Countries it predisposes

the constitutions to be affected by miasmata, and on this account persons 123
subjected to fatigue are most liable to the intermitting fevers. To illustrate
and confirm these observations I might mention the examples of ~~Mounted~~
Soldiers and sailors who are exposed to much fatigue and who are very readily
infected with the prevailing diseases of the places they visit. Daily Labour-
ers, also are more liable to diseases than those who are in moderate and easy
circumstances. Besides motion generally, there are some specific kinds of it.
1st Turning around fully and frequently induces great Lappitude and if persis-
ted in Vertigo, nausea, and Vomiting. A Rapid motion in a backward di-
rection is often hurtful. It is this that riding backwards is so inconvenient to
most persons. Rest or want of motion is like indulgence in sleeping injurious,
both relaxes and debilitates the body and renders it an easy prey to disease es-
pecially inducing corpulency, which when excessive is certainly a disease.
But this want of motion is to be considered in a more extensive light em-
bracing all sedentary occupations, which are the cause frequently of Con-
sumptions and various complaints nausea, Vomiting of Gallstones and
other abdominal obstructions. One of the most severe diseases induced by it, is
urinary calculi, which is often undoubtedly the production of a seden-
tary life. Females for the want of sufficient exercise is subject to many Com-
plaints, Dyspepsia, amenorrhoea, Leucorrhoea, Scrofula and various other Chronic
Complaints. From inheritance a host of diseases, calamities which are often
transmitted to posterity as a legacy. To exemplify this I may refer you to the
manufacturing cities of England. Those large repositories of disease where
the pale Labourers are permitted one day in seven to creep out of their in ear-
rated work shops to breathe the fresh air for a few hours. Retention and
Excretion are probable sources of disease. By the latter is meant an excep-
sive increase of a natural and customary evacuation. By Retention is meant
the suppression of them. By Retention of the perspirations are produced most

of the febrile diseases as also the catamenia catarrhal and bowel com- 125
plaints, by constipation or retention of the evacuations from the bowels are pro-
duced headaches, nausea, colics, hemorrhoids, inflammation of the bow-
els, nervous tremors and the whole train of Chronic diseases, all the class neu-
roses has been attributed to it by Dr. Hamilton. There is no cause of disease
more injurious than habitual costiveness. Haller considered a soluble st-
ate of the bowels so important that Life could not continue long without
it; and he even conjectured that the Longevity of birds was owing to the
facility with which they evacuated their bowels. From Retention of the
bile besides many unpleasant effects, there arises costiveness, jaundice,
Hepatitis, Dropsy. Of the Retentions none is more fatal than that of urine, pro-
ducing inflammation of the Kidneys and Laying the foundations of Stone,
gravel and followed by a train of distressing symptoms and finally death.
Retention of SEMEN induces priapism epilepsy, melancholy,
and sometimes stark madness. Much has been said of Amenorrhoea as a source
of disease of this more hereafter. I will now only observe that the uterus possesses
so powerful a dominion over the system, that its derangements produces
many morbid affections. All the ~~diseases~~ diseases of the females either
arise from or are attended by some disorders of the uterine function. There
arises dropsy, nervous affections and often insanity. I have seen cas-
es of insanity whether caused by the suppression I cannot certainly deter-
mine, but which were immediately relieved by bringing on a flow of the
catamenia by Emmenagogues exactly as the retention of the Secretion is
injurious so is the increased discharge of them.

In concluding what I intended to say on Pathology at present,
I shall make a few observations on the Passions of the mind as
causes of disease, these are of great importance in considering the
treatment as well as the causes of morbid affections, but I must confine

myself to a few observations under the last of the three heads viz the Cause of dis-
ease - A little experience must persuade any one that the passions possess an ex-
tensive dominion over the body and can afford no slender assistance in produ-
cing its various derangements - According to their effects they may be divided
into two classes - Healthy or Salutary, and the Hurtful, under the latter are
to be ranked. Fear, Grief, Despair, Jealousy and perhaps revenge, under the
former we find Hope, Joy, Love, Ambition, Courage - each ~~step~~ ^{passion} is
marked by peculiar signs, the hurtful passions by long dominion over the
body induce finally a pale, sickly and haggard countenance, while the
others clothe the face with a smile of cheerfulness and the of health.

Although their external characters are very dissimilar, there is a great
analogy in their effects on the body, thus the action of anger and exulting
joy are very similar, both increase the action of the heart and arteries, au-
gment the volume of the muscles, determine the flow of blood to the head,
as is manifest from the suffusion of the face and the sparkling fire of the
eyes, also inducing syncope, convulsions and sometimes apoplexy; In
descending to particulars we will first notice FEAR, this is eminent-
ly mischievous and is marked by paleness and wildness of the counte-
nance, distortion of the eyes, palpitation of the heart, Laborious brea-
thing, weak pulse, and a trembling of the whole body, when exte-
reme amounting to terror, you see a ghastly countenance, tremors &
convulsions, or that sudden state of muscular debility known by the
name of catalepsy, these are the direct and more vehement effects
of fear. When it is less violent it acts as a predisposing or exciting ca-
use of disease, as was well exemplified in our Epidemics when fear rendered
persons more liable to the disease or hastened the fatal event in those who
were attacked. There are other circumstances attending its operation as vari-
ous nervous affections, Diarrhea, sickness at the stomach, Suppression and in

many cases complete insanity. When intense and long continued Grief ¹²⁹
corrodes and debilitates both mind and body is marked by a dejected, languid
manner, paleness of the skin and emaciation. At its commencement it
induces various nervous diseases and sometimes a fatal attack immediately,
loss of appetite and derangement of the stomach and chylopoietic viscera
are the consequences. Jealousy cannot always be considered as a simple
passion but as a compound of distrust, despair, suspicion and revenge unit-
ing, in some measure the character of each. Love is generally the foundation
of it and although eternally self-tormented is not often the source of any serious
disease, sometimes the mind is affected and if we believe the poets, the power is
often deranged. - **Anger** is the most stimulating of the passions and
when amounting to rage this fact is indisputable, it acts on the mind like a
whirlwind in the atmosphere, freed from the restraints of reason it hurries its pos-
sessor to every rash and intemperate deed - utterly regardless of its consequences,
it determines the blood to the head inducing violent diseases of the brain as
Mania and Apoplexy. Many are the cases in which during a paroxysm of an-
ger death can be off the unhappy victim - Mr John Hunter died in this
manner. It produces other effects similar to those from a debauch in wine,
it pre-disposes to many diseases especially in females, as nervous affections,
hemorrhages from the uterus, miscarriages &c. Such being its diversified
effects let me advise you in the language of the sacred volume "now
to let the sun go down upon your wrath" the healthy passions are sometimes
injurious from excessive indulgence. **Love** when properly regulated is
a pleasant and delightful feeling, but when ill regulated or excessi-
vely indulged or when disappointed in its objects it becomes as the rag-
ing sea which cannot be controlled - the mind and body sink under its
influence. Its effects are much influenced by any slight glimmering of ho-
pe or when despair shuts up every avenue to the attainment of the desired object.

many cases of the disease, and in some cases it is fatal. The disease is caused by a virus which is transmitted from one person to another by contact with the infected person. The virus is very resistant to heat and cold, and it can survive for a long time in the environment. The disease is characterized by a high fever, a sore throat, and a rash. The rash is usually a red, maculopapular rash that starts on the face and spreads to the rest of the body. The disease is most common in children, but it can also affect adults. The disease is usually self-limiting, and it resolves within a few days. However, in some cases, it can lead to complications, such as pneumonia or encephalitis. The disease is caused by a virus which is transmitted from one person to another by contact with the infected person. The virus is very resistant to heat and cold, and it can survive for a long time in the environment. The disease is characterized by a high fever, a sore throat, and a rash. The rash is usually a red, maculopapular rash that starts on the face and spreads to the rest of the body. The disease is most common in children, but it can also affect adults. The disease is usually self-limiting, and it resolves within a few days. However, in some cases, it can lead to complications, such as pneumonia or encephalitis.

Dyspepsia and the various train of nervous diseases are its consequences - Joy is exhilarating and stimulating agitates the whole body and gives to the countenance a sprightly expression, It induces mania, Syncope, convulsions, apoplexy and palsy.

Ambition when legitimately indulged in, produces no injury but it is an infirmity of great minds and when once disappointed in its objects, renders its possessor liable to the encroachments of mental and corporeal disease. I have seen that man whose ambition excited him to wear the arms of his country for victory, when disappointed in his object lost entirely the energy of mind which before characterized his designs and speedily sinks into obscurity. Before quitting the subject I will mention one or two other circumstances as causes of disease - 4th The Venerer appetite, this when properly governed by reason like the other institutions of nature is productive of no harm, but when excited too early in life, when excessively indulged in ripe years, or when provoked by foreign stimuli in old age it becomes the source of various disorders of the most melancholy kind. The practice of onanism independent of its immoral tendency injures the memory, debilitates the mind and body, brings on melancholy, insanity and other nervous affections, also Epilepsy and Pulmonary Consumption - of the Employments and professions, of men, those are the most conducive to health which are carried on in the open air, hence farmers and carpenters have always been remarkable for their good health. It is to the want of pure air in conjunction with causes above mentioned that the poor in manufacturing establishments are so subject to disease, to which maybe added the posture of the body and the nature of the materials. The scholar and the devotee to the fine arts are from their exclusion from pure and fresh air subject to many terrible affections, while it is observed that the physician and Lawyer whose business is carried on partly in the open air,

are peculiarly exempt from diseases and live to an old age. — our amusements also become the source of injury to our health. our females who are more submissive to the dictates of fashion and of pleasure than men, are very liable from their dress and from the heated rooms in which they are amused, to Catarrhs, Rheumatisms and Consumption. — I shall now finish my pathological descriptions, you may perceive that I have confined myself to the causes of disease, and have deviated from the usual course, thinking it will be more clear and instructive, to introduce the other parts when I am treating of particular diseases. —

Medical Physiognomy

To complete the consideration of Pathology, I shall detain you a short time on Medical Physiognomy, or the signs of diseases. As a preliminary inquiry before entering upon the practice of medicine, it is necessary I should say something of the Pulse; of the different appearances of the Blood, the Secretions and Excretions, the Countenance, the posture of the body, the state of the Mind and a variety of other subjects. It is this which constitutes the foundation of the Diagnosis and Prognosis of disease, a skill which always distinguishes the practitioner of eminence. The Pulse has long been celebrated and is justly entitled to much confidence; but it was not well understood nor was it employed as a prognosis until the discovery of the circulation. Hippocrates speaks of it as causing a throbbing in a highly diseased or rather inflamed part. It was made further advances to its development though it was still so imperfectly understood by him as to be called the fallacious guide. The credit however is due to Galen of vindicating its importance. His treatise on this subject contains a very minute description of the pulse, which has continued down to the present time.

and is now become familiar to us. But this minuteness constitutes the chief ³⁵ imperfection of his work, as it is calculated to embarrass the reader - As it might be supposed the pulse has not been neglected in modern times, but as usually happens in subjects of importance or high interest, no small difference of opinion exists concerning it. By some it is considered as the only just criterion of morbid action, whilst others dispute this point and view it as being merely subordinate and auxiliary and never to be relied on to the exclusion of the rest - Here as in many controversies, truth lies pretty nearly between the two extremes. The pulse in perfect health is soft, and free from all restraint, open and vigorous, the pulsations returning at precisely equal intervals, —

1st It is varied from this state by ~~Age~~ conformable to the calculations which have been made, It beats in Extreme infancy 140 strokes in a minute, at the end of the first year 120, of the 2nd 100, third year 90, and gradually becomes slower till the 12th year, when it assumes the adult standard, which is about 75 pulsations in a minute. In the 26 States after the Meridian of Life it becomes somewhat slower, and in old age three changes take place, 1st It becomes less frequent, in some the pulsations do not exceed 40 in a minute and it is even below this - 2nd It is fuller and stronger - 3rd It is more irregular and intermitting; if you were not apprised of these facts, you might suppose there was something exceedingly wrong going on in the system -

2nd SEX has considerable influence over the pulse, in women it is quicker than in men, the difference is 10 strokes in a minute in favour of the woman; we should naturally suppose there was a difference but not so great - Reffu and Hoffmann maintain that the preceding statement is correct, in certain conditions of Females as in pregnancy and just before menstruation the pulse is quicker and more forcible -

3rd Temperaments The pulse is stronger and quicker in the sanguineous.

and a more complete knowledge of the subject is required. The first step is to determine the nature of the problem. This is done by a careful study of the facts and circumstances. The next step is to determine the cause of the problem. This is done by a careful study of the facts and circumstances. The third step is to determine the effect of the problem. This is done by a careful study of the facts and circumstances. The fourth step is to determine the remedy. This is done by a careful study of the facts and circumstances. The fifth step is to determine the result. This is done by a careful study of the facts and circumstances. The sixth step is to determine the conclusion. This is done by a careful study of the facts and circumstances. The seventh step is to determine the recommendation. This is done by a careful study of the facts and circumstances. The eighth step is to determine the action. This is done by a careful study of the facts and circumstances. The ninth step is to determine the outcome. This is done by a careful study of the facts and circumstances. The tenth step is to determine the final result. This is done by a careful study of the facts and circumstances.

4th Stature influences the pulse, this is shewn to be the case by recent ex-137
periments of Bryan Robinson. In men he says 6 feet high the pulse beats 10
strokes slower in a minute: the same thing is confirmed by Senac and Faulkner.
The pulsation in dwarfs is from 90 to 100 and in giants it does not exceed 50.
to 55-

5th Posture - the pulse uniformly in an erect posture beats faster; slower
when lying on the back and in a medium when sitting down between the
recumbent and erect. Recollect this, in a recumbent posture it beats 64
pulsations, sitting 68, standing 75, this is the estimate made by B. Rob-
inson whether exactly correct or not I will not decide but the position of
the body materially affects it.

6th Sleep - In this condition as there is an abstraction of most of the sti-
muli of the body, we would suppose the pulsations would be dimin-
ished, the fact is ~~not~~ ^{for}, we find that it beats several times less - where the
pulse in sleep is quicker than natural it may be attributed to the heat
of the chamber, the bed clothes, agitated dreams, &c.

7th Light & Darkness has much influence on it. It is accelerated
by light. This you ought to recollect in fevers, by this fact we are taught
to keep the Chamber dark; Indeed this is indicated by nature, for the
patient to avoid the light, closes his eyes. After every meal, it is found to
be quicker and this varies according to the nature of the articles taken
in. Animal food is found to increase it more than vegetables and ardent
spirits more than either. Heat is usually admitted to exert a powerful
influence on the pulse; on sitting by the fire an acceleration of the pulse
is immediately perceived. It is quicker in summer than in winter and
in hot than in cold weather. The pulse of the Laplander beats 40 in
a minute, while those who live under the Torrid zone have 100 pulsations.
Motion. Every description of motion accelerates the pulse, scarce any

138

Stimulus is so powerful as exercise after walking 1 or 4 hours, the pulsations will amount to 130 in a minute and running increases them still more to 140 or 150. In certain conditions of society, the pulse is altered. It is much quicker in civilized man than in a savage, and in those who are cultivated than the rude and vulgar. Forasmuch as, also, ~~also~~ do particular causes develop the pulse. Deep mental solicitude and some of the emotions and passions of the mind such as Anger, Joy, Hope impart a fullness to the pulse, but others as grief, Fear and Despair, depauperize it. Silence has a tendency to lessen its frequency. It is universally admitted that the time of the day renders the pulse liable to vicissitude. Gallen asserts that at noon and in the morning, it was similar to that in a paroxysm of fever. It is generally admitted to be higher in the morning, gradually diminishing till midnight, this was proved by Bryan Robinson and substantially confirmed by Faulkner. But recently the point has been disputed by a very ingenious writer, he even goes further and asserts that all the functions are weakened at the close of the day; Besides Experiments he added a variety of facts, as collateral evidence. 1st In respiration there is much less carbonic acid given out at the close of the day than in the morning. 2nd That the trainers of individual Pugilists find that puppers interfere with invigorating the individual & occasion imperfect digestion. It was long ago said that rest promotes digestion. It would appear then as a necessary consequence that it should be greater in sleep. This would appear a contradiction, but it is impaired at the close of the day, A very proper subject for an Inaugural Dissertation. To the preceding causes which induce variation in the pulsation, may be added some others, thus in some it is more slender and feeble than usual and in others more vigorous without influencing in any degree the health of the individual. Judge Peters never has fewer than 100 pulsations in a minute, and I know a Lady whose pulse never was above 40, a case

① I have within two weeks of this time attended a
person the irregularity of whose pulse was indication
of returning health. November 9th 1826

is related by Mr Astley Cooper where it never exceeded 28. I have also 141
seen the hobbling pulse when it was not attended with any injurious ef-
fects. A knowledge of the peculiarities are of the greatest importance, and are
never to be lost sight of by the practitioner. When you find them enquire
whether they are suddenly brought on or are natural to the person.

I shall next speak of the Morbid State of the Pulse. The vascular system
is a whole made up of parts among which there subsists the closest sym-
pathy. They pervade the most distant parts of the body. Hence we should be
naturally led to believe that they must participate in a greater or less de-
gree in every diseased action, communicating that kind of information
which we obtain by examining the pulse. Being implicated in almost
every disease they are as various as the actions themselves. Thus they are
altered by every febrile affection, so much as to be totally different in their
nature. By the ancients the various kinds of pulses were infinitely multi-
plied. Galen enumerates upwards of 100 and by Solan the number was
even increased. The distinctions between them were so slight as to be re-
cognised with difficulty, and in practice they tend greatly to cause
embarrassment. Certain it is they cannot be comprised in a lecture;
if they can be acquired at all, it must be by extensive clinical practice.

As regards practical purposes, the following divisions will be found to
answer exceedingly well and has a decided superiority in being a
very simple nomenclature.

1st Synocha; This pulse is full, frequent and tense, with some degree
of hardness and contraction of Volume. It occurs in synocha febris, Pleu-
risy and acute Rheumatism, Phlegmasia.

2nd Synochus. This is very full, round and vigorous, it differs from
the preceding in being more open, softer and rounder, it is to be found
in the ordinary autumnal Bilious fevers. ---

3^d Synochus. This is quick, tense, hard like an Elastic tube. It may be distinguished from the others by its quickness, hardness, diminished volume; It occurs in Gout, Chronic Rheumatism & Aches.

4th Typhoid. This pulse may be known by its being quick, tense and contracted in volume. It occurs in reduced systems combined with much irritation, as in Hectic fever &c.

5th Typhus. This is weak, usually very quick, easily compressible, it is found in Scurv and Hospital fevers. These are different pulses which are most commonly met with in practice and may be considered as primary ones. But we often find them very much blended; there are however some modifications which it is necessary you should know, Not the least frequent of these is a modification of Synochus. It is soft, full and round, but has no tenseness, yielding to the least pressure. This is a very insidious pulse, calling for B. Section and other depletory measures, when in reality it demands an opposite mode of treatment.

It occurs in putrid diseases, and was observed in the late winter epidemic, an abstraction of the least quantity of blood, sinks the system and general powers of life. Another condition of the pulse next to be mentioned is called the depressed pulse, it is very much like that of debility so much so in deed that the two have been confounded. They may however be denominated and known by the following circumstances with attention - 1st The depressed pulse, it is very much like that of debility but it only occurs in the early stage of the disease - 2^d It is to be met with, ⁱⁿ none but malignant or other diseases of great violence. 3^d It is found chiefly in inflammatory affections of the Abdomen and Brain - 4th It is much slower than that from debility and exhaustion after, not having more than one half of the number of pulsations - 5th By a careful examination it will be found to impart

something like ten~~der~~ness, or intermits, or hobbles, or perhaps some other divi- 145
ation from nature - By Sydenham this pulse was first noticed, but the
claims of Rush are as strong in calling the attention of medical practitioners
to it. And this alone should entitle him to our gratitude and eternal respect -
As it is a matter of great importance to draw indications from the pulse,
I shall give you some directions for its examination - - 1st Never feel
the pulse immediately on entering the room, the sight of the Practitioner or
Physician always agitates the patient and increases the pulse - 2nd In
examining the pulse always 2 or 3 fingers, the broader the surface the more
^{accurate} ~~ascertained~~ and distinct will be the sensation - 3rd Never hastily
make up your opinion but feel again and again - 4th In all equivocal
cases where great exactness is required examine the pulse in both arms,
often there will be found a material difference as regards the vol-
ume. 5th Let the arm of the patient always be placed free from pressure and
in a horizontal position - after all however the pulse will sometimes deceive
us - this is owing to the arteries not exactly sympathizing with the dis-
eased parts - It is most apt to lead us astray in diseases of the ~~abdomen~~ ^{chest} and in local inflammations - On the whole it affords the most
accurate index; like the compass it has its deviations, but should
no more be laid aside by us than the compass by the mariner - To trust
to other indications infinitely more precarious -

I proceed now to what is more properly termed Medical Phys-
iognomy, It signifies the appearances and expressions of the coun-
tenance - But it embraces the whole exterior circumstances, as far
as they lead to the nature of the disease - The changes of the blood - the
secretions and excretions, the mind and in fact whatever is calculated
to shed light on the diagnosis and Prognosis of disease, no one has
obtained so great proficiency in this branch of our science, as the

③ Also, falling down of the lower lip and a protruding of the lips are dangerous-

father of medicine, I shall confine myself to the ensuing enquiries to the appearance¹⁴⁷
as laid down by him and my own observations. In treating of this subject, I
shall notice in regular order the different parts of the body which present indications
of this nature. 1st The Countenances. There are several diseases in which the
Physicians are able to discover by the appearance of the countenance, as Jaun-
dice, Diarrhea, Pulmonary Consumption, Dropsy, The exanthemata, Pestilen-
tial diseases. In Jaundice besides the yellowness of the countenance, there is a
dulness bordering on moroseness. The Hectic Countenance denoting Consump-
tion is familiar to every one. It is marked by a circumscribed spot on the cheek, a
peculiar whiteness of Tunica Conjunctiva. Sometimes the Hectic flush may
be seen in Pleurisy, In pestilential fevers there is a red suffused, mu-
ddy eye; a dusky, red, livid skin; these are some of the chief characteristics.
But the Late Winter Epidemic was attended by a very peculiar complexion,
more resembling bronze than anything else; the face appeared polished and gla-
zed, these at whatever time they appeared was invariably but the preludes
of a speedy dissolution; never in a single instance did I witness a recovery after the
appearance; In general a countenance greatly differing from that in health,
denotes danger, hence it is common to say, such a person will certainly die,
he does not look like himself; and when the countenance is returning it is
favourable. The Hippocratic Countenance is perhaps well known,
it is marked by a sharp nose, hollow eyes, fallen temples, nose contracted, the skin
of the forehead stretched and dry. The colour of the face is dark and livid, &c.
A leaden countenance, is almost, always fatal. It is thought less certainly
so in diarrhea, but even here it is thought of very dangerous import. Cholera
Morbus, will sometimes bring it on in a few hours, but it is generally oc-
casioned by some of the protracted forms of disease; in these it is ac-
companied by a turning up of the nails. Cold Lips always indicate
the highest degree of danger. The appearances of the eyes in a sick person

② A dilatation of the pupil denotes compression of the brain -

are various: If they avoid the Light on one eye than the other, Livid, dark veins¹⁴⁹
or specks in them, contracted pupil, Little motion, thrust out of their orbits, or
without brightness, all these are very dangerous symptoms, also a dilated
pupil, a continued rolling of the eye balls, the Lids partially closed in sleep,
a puter natural contraction of the iris denotes actual or approaching infl-
ammation of the Brain. Sleeping with the eyes only partially closed indi-
cates a disordered condition of the Alimentary canal. In Children it
may be produced by severe purging, and then it is not so dangerous. A g-
ood colour is sometimes connected with a pallen look, this is a bad sig-
n, great contractions of the forehead denotes Phrensy. Eyes mostly closed
and fixed denotes delirium. When the patt: sees sparks of fire on him on top
of the head is indicated, there being a great accumulation of blood in the
Brain. Involuntary weeping is exactly the reverse. A sarcastic smile
called *Risus Sardonius* is a sign of approaching delirium; it is sup-
posed to be owing to the inflammation of the Diaphragm & the ton-
gue. It being of a pale greenish cast indicates the presence of Bile in
the Alimentary canal, at times it is an excellent guide to the hepatic
system also. A buffy tongue may be seen in the bilious diseases. a livid
chopped tongue denotes great danger, so also when it resembles in appearance
raw beef, this is seen in putrid fevers. A trembling tongue thrust out is
an unfavourable symptom, when the tongue has a natural appearance
in Malignant fevers, the highest degree of danger is indicated, but when
it becomes clean after being foul, and moist after being dry, steady
after being trembling, a favourable change is about to take place; I
will now remark the different appearances of the tongue in diseases of the
Lungs and those of the Alimentary Canal, In those of the pulmonary
organs, the tongue is clean and natural, but in affections of the stom-
ach and bowels it is loaded and encrusted, these are the distinguishing

⑦ In Pleurisy, ~~and Hepatitis~~ the patient cannot lie on the side affected - In Hepatitis the patient lies on the right side, as by lying on the left gives him much pain -

marks of the two, and in this manner Hectic may be distinguished from a low obstinate Inter mitt. fever; for in hectic fever with in an abscess in the Lungs or any other part there is always a clear polished tongue, while in other fevers it is of a very opposite aspect. 3rd The Teeth. These when covered by a foul, viscid, greenish or yellowish matter is unfavourable it indicates a Typhus condition of the system, with some disturbance of the Chylipoietic viscera and brain, so is grating of the teeth unless the patient be accustomed to it a forerunner of delirium. 4th Respiration. All unnatural breathing is unfavourable, it indicates a typhus condition this is Laborious respiration when a rising of the shoulders shows the situation of the patient to be dangerous, when it is attended by a sinking pulse it is also dangerous, a morantobbing in fevers is a bad symptom, as long as the inflammation of the lungs or pleura continues the respiration is confined, hence full and free respiration is always hailed as the harbinger of returning health; it is an infallible evidence, at least of the subsidence of Local inflammation; unequal respiration attended by frequent sighing is a bad, indicative of a difficult transmission of the blood, through the pulmonary organs and of course its imperfect carbonization; Hippocrates says the worst is slow, urgent, obscure or one breath upon another, in acute cases particularly when the stomach or Lungs are affected. Hiccough denotes much danger, and much motion of the ala of the nose denotes eminent danger.

5th The Decubitus or Position, when the patient can only lie on one side it is still worse, if he assumes any position different from that of health it is a bad sign, Restlessness accompanied by motion of the hands, feet &c, indicates danger. The worst of all is when the patient lies on his back and slides down towards the foot of the bed with his knees drawn up to his side and sleeps with his mouth open, the same thing may be said of a continual and urgent desire to be moved from one bed

to another - 6th Extremities, unequal temperature is generally un- 153
favourable; cold wrists, with warm hands is universally fatal, cold
feet are also alarming, but not so much so as the wrists, this however is
constitutionally the case with some, cold breath is always fatal, chill-
iness after the fever has come on is unfavourable, extraordinary as it may
appear a natural temperature in malignant diseases is of the high-
est danger; a redness of the palms of the hands and feet is a very bad
sign, this was illustrated in our Yellow Fever, whenever in acute fevers
or affections of the lungs or of the brain, the patient puts his hands to his
face, catches at imaginary substances, gathers moats, picks the nap
from the bed clothes, or straws from the walls it denotes a dying condi-
tion. A lividness of the nails is eminently dangerous, it makes a
torpid state of the circulation ^{in the capillaries} and the harbinger of death, I shall
proceed to conclude what I have to say of Medical Physiognomy.

The voice unusually sharp and quick are very unfavourable circum-
stances, as well as any material alteration; when it is changed from
mild to fierce, it is a bad sign, much talking when the patient
is taciturn or when ~~when~~ he suddenly becomes silent are also unfavourable
symptoms and generally denotes incipient delirium. A
trembling voice is an unfavourable symptom but an entire loss of
voice is still worse; when it remains perfectly natural there is still so-
me hope even among the most alarming symptoms. The Senses.
I have already ^{alluded} to one of them in speaking of these observations it only
remains for me to add concerning the several indications which
the eyes present, that imperfect vision is alarming - total blind-
ness is uniformly the prelude to death. It occurs chiefly in Hy-
drocephalus and denotes a considerable compression of the brain
about the origin of the optic nerves. Deafness - the fatal effects

of this symptom are harder in violent diseases, but in 155
mild cases as in catarrh, no harm results from it. Hearing unusual
sounds is a bad sign and imports the approach of serious affection of
the brain. a revival of hearing is exceedingly suspicious. Taste a vi-
tiated or imperfect taste is not favourable, a great desire for animal
food is little worse; Indeed I have seen but few recoveries, after this
presents itself. But in the close of a fever, a return of the appetite
indicates a state of Convalescence, a desire of Tobacco or any other
luxury is always favourable. Sensation. this affords some just in-
dications, insensibility to heat and cold a burning or irritating
applications is a bad sign; preternatural sensibility is not less so
it shows itself by noticing a slight noise, intolerance of the light or
draughts of air, both of these states may be found in nervous fevers also
in Hydrocephalus and other morbid affections produced by poisons;
a restoration of sensibility when not too sudden is favourable. It is ex-
pressed by the patients complaining of pain upon being touched, pain
in the ribs, also the part where blisters have been applied becoming
red and inflamed; as a further indication we may mention that
of picking the nose, this practice largely happens in children and is
an auspicious omen, unless it proceeds from worms, when you see this
symptom rely upon its convalescence is speedily about to take place, it
denotes that kind of irritation which is always the forerunner of
returning health. The Condition of the Mind. much informa-
tion may be derived from this source. Delirium is always bad, but
when attended with vivacity less so. There is hardly any thing wor-
se than a stupid delirium, with low muttering and heavy sigh-
ing, often however a partial alienation of the mind does not amount
to any serious consequence. Delirium seems to be dangerous when

A dull heavy pain indicates turgescence of the blood vessels and is the forerunner of apoplexy - An intense pain in the head indicates inflammation of the meninges of the brain. A pain in the oesophagus indicates an affection of the stomach. A pain in the back part of the head indicates Hydrascephalus and is very unfavourable - - -

④ Twisting of the tendon - The tendon getting over the radial artery at the wrist, so that the pulse cannot be felt is very unfavourable - This happens in the case of the late Dr Lawrence of Philad^a

it shews itself in a want of solicitude concerning the events of the ¹⁵⁴ disease and inattention to the family and friends never enquiring after them, not even for wife and children, I have seen this repeatedly in fevers, there is scarcely any symptom more unnatural and full of danger, a contrary state is a favourable indication, it is denoted by often making enquiry into his case, politeness to his physician, speaking of circumstances in life, asking for intelligence &c. these are all good signs; when the mind has gloomy forebodings of death it is unfavourable, however we except persons of natural timidity from this remark. but if it occurs in the commencement of a disease it is an unfavourable symptom, but when in the latter part of a disease it denotes convalescence. (4)

Blood. As you all know the blood affords several signs greatly to be depended upon, they are all drawn from the several appearances arising from its different degrees of coagulability. In my Lecture on Physiology I stated to you that Newton advanced the proposition, that the force of the circulation and coagulation were in an inverse ratio, this was confirmed by Mr Haighton, these results are precisely what might have been anticipated as the process of coagulation is a vital one, it follows then that the blood coagulates most speedily when in full health, but it is only the ~~same~~ case in health, for morbid action under all circumstances subdues the powers of life and diminishes the powers of disease. 1st Dissolved Blood. In this case the constituent parts of the blood are mingled, shewing no disposition to separate, when it appears vitality is always greatly enfeebled, it indicates the greatest danger and occurs in malignant diseases, frequently it presented itself both in our summer and winter Epidemics, after its occurrence a recovery never took place. The worst

form of blood is where it resembles molasses and water, but sometimes ¹⁵⁹
~~but sometimes~~ it is only partly dissolved with some crassamentum on the
surface. That dissolved blood is owing to debility of the vital power is
true by its being seen in purpura and other ~~the~~ cachectical diseases,
whenever it occurs the lancet must be laid aside and the system must
be supported by a free exhibition of Cordials, that an opposite doc-
trine has been supported I am aware, but my own experience and that
of others who stand high in medicine support my opinion in all cases,
it indicates a decrepid state of the vital energy. The different de-
grees of this condition is shown, by only part of the crassamentum being
dissolved called Latens Crassamentum, this is where the serum is dissolved
by particles of the red globules. It occurs in the last stage of violent
fevers, it is one of the most untoward symptoms and as in the pre-
ceding case it calls for stimulants. 3rd When the serum of the blood
is clear, red or green or greenish yellow it is dangerous, it occurs in
the autumnal bilious fevers of more than ordinary violence, but a re-
covery has taken place after all these symptoms, nor should you aban-
don the lancet when its serum is yellow in Pleurisy. 4th The Scalid
Blood, when there is no separation of it into Crassamentum and serum
by some this is thought to indicate the 1st and 2nd degree of morbid
action. It may uniformly be seen in blood from increased excite-
ment, great exercise, it is also an appearance that blood puts on
in the forming stage of Rheumatism, Pleurisy &c. But bleed the
second time and you will find a buffy and thick coat. The inter-
val between the first and second bleeding is sufficient to estab-
lish the diseased action and produce this morbid change.
5th The Soury Blood. This is the worst appearance blood can put
on, it signifies an open and distinguished action occurring chief-
ly

⑥ The size of the orifice by which the blood is drawn has an influence on its sty appearance that drawn from a small orifice will not become so.

⑦ Pus is coagulated by the muriate of ammonia - It putrefies on exposure to the air, particularly when mixed with foreign substances. By holding a portion between 2 pieces of glass Dr. Chapman says the globules can be seen -

in ordinary inflammations as Pleurisy or Rheumatism, it calls for 161
v. Section and other depleting immediate measures, but exceptions to
this may also exist, for in some individuals it is to be found at all
times even in health, but they are always to be found in pregnancy.

Hebden says it is always to be found in Putrid or Typhus Fever,
Erysipelas and Cynanche maligna, and it was also seen in
the pneumonic form of the Late Winter Epidemic, but in truth it is in-
separably connected with pulmonary affections, whether Hoarse-
ness, Pleurisy or Consumption and this appearance is not a little
modified and the size of the vesicle influence it. I have often drawn
blood out of one arm which was stinging while that from the other arm
had not the least appearance of the buffy coat. This ^{have} I seen again
and again, these circumstances which might be multiplied compel
us to use some degree of caution and circumspection and also to
consult other signs.

Secretions & Excretions. The first of these is expecto-
ration, this forms another source to judge of Disease. If it be yellow in com-
mon Pleurisy, the symptom is an unfavourable one. But if expecto-
ration be mixed with dark blood it is dangerous, this is the pneumonic form
of our Late Winter Epidemic, was one of the most unfavourable symptoms,
but in ordinary pleurisy, it may be less regarded. Frothy expectoration
affords no relief and imports no great danger, Discharges of purulent mat-
ter are always alarming and presupposes abscess or ulceration of the
Lungs, the tests of pus and mucus I will give you hereafter. A rough
yellow mucus affords the most relief in an engaged state. The Fæces
come next or rather the Excrements, which include fæces, urine, perspira-
tion - 1st Fæces. It is generally laid down as a Rule that soft, yellow
fæces with no bad smell and voided at the usual periods, denote health
altho

0 And calls for the exhibition of the alkalies

0 If the urine deposits white flocculent matter the likelihood is excess
and calls for the acids

But these are deviations from the natural condition - 1st Watery stools indicate great relaxation or a high irritated state of the Intestinal canal - 2nd When lumpy and mixed with mucus, slime or blood, it denotes a high inflammation of the bowels. They are more apt to occur in dysentery, the lumps are denominated Scybala. 3rd Deep green faeces or yellow or black like tar indicates the presence of bile, green or black denotes acidity, the black is owing to the acids uniting to the soda of the bile, the greenness seems to arise from the action of the Atmosphere, it is not unworthy of Recollection that it passes from a yellow to a green state on exposure to the air. If the napkin of a child be taken off and exposed to the air, in half an hour the faeces will be changed from a yellow to a green colour, in children it can therefore be readily explained. 4th Clay or Ash coloured stools mark a deficiency or want of bile. Excrementitious matter mixed with the food indicates imperfect digestion or such a degree of irritation that it is forced through before it is digested, urine. This is not dependant on in modern times though Hippocrates placed great reliance on it. Certain it is however in the present state of Medical refinement we do not know its importance. My Blackall it is stated that urine in dropsy forms ^{one} of the criteria of the disease. Why we are so particular with Urine and totally disregard the urine, is perhaps not readily explained. The ancients imposed the utmost fidelity upon the observations made of the urine. 1st An increased and pellucid discharge denotes a great relaxation and nervous disease. 2nd a deficient discharge is caused by a great irritation of the urinary organs. 3rd Loaded with mucus or milky fluid denotes disease of the Cystopointie visceræ, it is to be regretted that more attention has not been paid to the bladder, all we know is that when the urine deposits red precipitate, acid is in excess. 5th A full discharge is injurious though at a crisis it is not always so. Thus it is a crisis in Gout and Rheumatism, and is generally succeeded

⑥ The perspiration having a sour odour is favourable—

by a speedy convalescence, but a putrid natural discharge is indica- 165
tive of imminent danger in pneumonic inflammation and diseases of the
brain. Never does it occur in affections of the brain that death does not ensue - the same
may be said of the acute forms of pulmonary complaints. Strangury is an auspicious
circumstance ~~that~~, a translocation of the diseased action to urinary
organs. Perspiration our knowledge on this is very accurate. Hippocrates
mentions that universal perspiration in fevers is favourable and experience
warrants the conclusion, but it is only so while accompanied by a warmth
on the surface, cold pale and clammy sweats except in nervous
affections are very alarming. The same thing may be said of partial
sweats, rarely in fevers particularly about the head and neck they
indicate long and obstinate attacks, but if they make their appearance
in the advanced stages of the disease, they are still more to be dreaded,
when the perspiration is fetid, and cadaverous it is usually fatal. I
have said when attended with a glow on the surface it was beneficial,
this is true so far as regards the milder cases, but it is not uniformly so
in malignant diseases, I have seen it again and again in the Yellow
Fever among the most unfavourable symptoms, with this I complete
my consideration of Pathology.

Ytania & a Stenic

Practice of Physic.

167

Before entering directly on the practice of Physic it will be proper to examine the various means by which we can ascertain its presence a judge of the state of the patient. We come now to the most interesting and most important part of our course; to which the principles which we have delivered under the heads of Physiology, Therapeutics and Pathology are merely subservient.

At this early stage the question arises how are the different diseases to be arranged? This has exercised the ingenuity of various writers, who observing the natural classification in other subjects have attempted systematically to arrange the morbid conditions of the body.

This forms the division of Nosology. although a friend to nosology I am on no account satisfied with the arrangements which have been proposed; although they have some merits yet they are accompanied with many defects considered in every view.

Cullen is the best of all those which have been promulgated at his period. Aware of the imperfections of preceding attempts that bold innovator W^m Brown raised a vehement opposition to all nosological arrangements. He made the division certainly simple dividing diseases only as they related to the intensity of excitement.

Thus forming only two divisions, and according to the degree of strength in the system; notwithstanding the strong claims which he had made to originality, yet his pretensions are very slender, these opinions were first promulgated by the medical Methodists as they were called. It is not unknown to you that our school denying

Practice & Physiology

The first object of the practice of medicine is to remove the disease from the patient. The second object is to prevent the disease from returning. The third object is to relieve the patient of the pain and suffering which the disease causes. The fourth object is to restore the patient to his former state of health. The fifth object is to prevent the disease from spreading to other persons. The sixth object is to prevent the disease from becoming chronic. The seventh object is to prevent the disease from becoming fatal. The eighth object is to prevent the disease from becoming incurable. The ninth object is to prevent the disease from becoming contagious. The tenth object is to prevent the disease from becoming hereditary.

The first object of the practice of medicine is to remove the disease from the patient. The second object is to prevent the disease from returning. The third object is to relieve the patient of the pain and suffering which the disease causes. The fourth object is to restore the patient to his former state of health. The fifth object is to prevent the disease from spreading to other persons. The sixth object is to prevent the disease from becoming chronic. The seventh object is to prevent the disease from becoming fatal. The eighth object is to prevent the disease from becoming incurable. The ninth object is to prevent the disease from becoming contagious. The tenth object is to prevent the disease from becoming hereditary.

The first object of the practice of medicine is to remove the disease from the patient. The second object is to prevent the disease from returning. The third object is to relieve the patient of the pain and suffering which the disease causes. The fourth object is to restore the patient to his former state of health. The fifth object is to prevent the disease from spreading to other persons. The sixth object is to prevent the disease from becoming chronic. The seventh object is to prevent the disease from becoming fatal. The eighth object is to prevent the disease from becoming incurable. The ninth object is to prevent the disease from becoming contagious. The tenth object is to prevent the disease from becoming hereditary.

The first object of the practice of medicine is to remove the disease from the patient. The second object is to prevent the disease from returning. The third object is to relieve the patient of the pain and suffering which the disease causes. The fourth object is to restore the patient to his former state of health. The fifth object is to prevent the disease from spreading to other persons. The sixth object is to prevent the disease from becoming chronic. The seventh object is to prevent the disease from becoming fatal. The eighth object is to prevent the disease from becoming incurable. The ninth object is to prevent the disease from becoming contagious. The tenth object is to prevent the disease from becoming hereditary.

The first object of the practice of medicine is to remove the disease from the patient. The second object is to prevent the disease from returning. The third object is to relieve the patient of the pain and suffering which the disease causes. The fourth object is to restore the patient to his former state of health. The fifth object is to prevent the disease from spreading to other persons. The sixth object is to prevent the disease from becoming chronic. The seventh object is to prevent the disease from becoming fatal. The eighth object is to prevent the disease from becoming incurable. The ninth object is to prevent the disease from becoming contagious. The tenth object is to prevent the disease from becoming hereditary.

the diversified nature of the disease has attempted rather too intem- 169
perately to put down all nosological distinctions. no one is more sensi-
ble than myself of the defects of the present arrangements of diseases
yet I would not by any means reject the whole on this account,
even the very worst is of some use, as it introduces some order and
perspicuity into our science and enables us to classify facts. Be-
cause they have been abused it is no proof that they are hurtful and
useless - This mode of reasoning if correct would apply to all the arrange-
ments of natural objects; the criticism is unjust; thus we see that Linnaeus in
his celebrated classification has placed man and the bat in the same
class the first and almost the least of animated beings, yet on this acco-
unt no one would utterly reject his classification which is highly useful.
What is the best mode of systematizing diseases is doubtful. all ac-
knowledge at least the necessity of some arrangement by adopt-
ing the names &c. of systematic writers.

This division into classes, orders, Genera, species and Varieties is alto-
gether artificial and I will not load your memories by recapitu-
lating the whole of them.

I would arrange diseases as they present themselves in the various
parts or systems of the body, that is in parts having a similarity of
structure and uses. I am sensible that this has like other many de-
fects, but on the whole after much reflection it appears to me to be the
best, the most simple and tending to the most practical utility.
Limiting the term system to parts having the same structure and
uses, I shall consider diseases as affecting the following
systems.

- 1st The Circulatory, comprising the Heart and Blood vessels.
- 2nd The Digestive. Relating chiefly to the Alimentary canals.

- 3^d Respiratory. Relating to the Pulmonary organs.
- 4th Absorbent. Comprising the Lacteals and Lymphatics.
- 5th Secretory. Comprising the glands.
- 6th Sensitive. Including the brain, nerves ~~and~~ spinal marrow.
- 7th Muscular. Comprising the muscles, tendons, aponeurosis, Ligaments.
- 8th Cutaneous. as regards the whole surface of the body.
- 9th The Osseous. Comprehending the bones and their immediate appurtenances.
- 10th Generative. which includes the organs of generation in both sexes.

It will be very easy under these to comprise all the diseases to which the body is liable, but I will follow the plan proposed without references to particular alliance of affinities and which it would be difficult to determine. Rejecting the artificial arrangements of disease I will retain the names as they are sufficiently expressive or universally received, and as no advantage but much inconvenience results in changing the nomenclature of any disease, I now proceed to the consideration of Diseases.

Class. 1st Pyrexia - Order. 1st Febres-

Pathology of Fevers.

Circulatory System.

173

FEVERS.

These are perhaps the most common Diseases we shall meet with and as well illustrating general principles, I will treat of them more at length and more minutely than other subjects. What is the nature of fever? Ever since the dawn of medical science the question has been proposed but yet remains I fear unanswered.

Fever is so numerous, diversified and fluctuating; so much under the influence of causes by which they are modified and so frequently do they shift their character and change their guise that no description is applicable to the whole. Dr. Cullen whose definition is generally received says that fevers manifest after some degree of shivering an increase of heat and an increased frequency of the pulse with an interruption and disorder of several of the functions, particularly some diminution of strength in the animal functions: Although this is very correct yet there is no one of these which is always present may be considered as Pathognomic. That heat is to be considered in this light no one maintains, the senses are no criterion to judge of the degree of temperature, the feelings are very delusive when actually very warm the patient will feel cold and vice versa. It is by no means always preceded by shills or shivering; In deed except in some particular forms this is a very rare occurrence, the pulse exhibits every variety of action; but is generally preternaturally frequent; to this there are many exceptions. it is often increased by exercise and various other causes. upon the whole no one symptom is to be considered as always present and as pathog-
nomic

Dr. Chapman thinks all fevers are symptomatic—

Intermittent
 3rd. 5 7 9 11 14 17 20. 21 the day on which
 the fever after exposure to the cause, supervenes. Dr. P.
 A man is never well of Intermittent fever until he passes
 the 21 day.

but we must consider the whole &semblage of appearances as one view. 175

FEVERS are divided into Idiopathic and Symptomatic also into Intermittent, Remittent and Continued. The Intermittent fever consists in a succession of paroxysms between which there is a complete cessation or subsidence of the febrile symptoms, or apexia. These have been divided into Quotidian, Tertian and Quartan, according to the interval between the paroxysms. ^{24 hrs} of each of these ^{48 hrs} ^{72 hrs} ^{96 hrs} ^{120 hrs} ^{144 hrs} ^{168 hrs} ^{192 hrs} ^{216 hrs} ^{240 hrs} ^{264 hrs} ^{288 hrs} ^{312 hrs} ^{336 hrs} ^{360 hrs} ^{384 hrs} ^{408 hrs} ^{432 hrs} ^{456 hrs} ^{480 hrs} ^{504 hrs} ^{528 hrs} ^{552 hrs} ^{576 hrs} ^{600 hrs} ^{624 hrs} ^{648 hrs} ^{672 hrs} ^{696 hrs} ^{720 hrs} ^{744 hrs} ^{768 hrs} ^{792 hrs} ^{816 hrs} ^{840 hrs} ^{864 hrs} ^{888 hrs} ^{912 hrs} ^{936 hrs} ^{960 hrs} ^{984 hrs} ^{1008 hrs} ^{1032 hrs} ^{1056 hrs} ^{1080 hrs} ^{1104 hrs} ^{1128 hrs} ^{1152 hrs} ^{1176 hrs} ^{1200 hrs} ^{1224 hrs} ^{1248 hrs} ^{1272 hrs} ^{1296 hrs} ^{1320 hrs} ^{1344 hrs} ^{1368 hrs} ^{1392 hrs} ^{1416 hrs} ^{1440 hrs} ^{1464 hrs} ^{1488 hrs} ^{1512 hrs} ^{1536 hrs} ^{1560 hrs} ^{1584 hrs} ^{1608 hrs} ^{1632 hrs} ^{1656 hrs} ^{1680 hrs} ^{1704 hrs} ^{1728 hrs} ^{1752 hrs} ^{1776 hrs} ^{1800 hrs} ^{1824 hrs} ^{1848 hrs} ^{1872 hrs} ^{1896 hrs} ^{1920 hrs} ^{1944 hrs} ^{1968 hrs} ^{1992 hrs} ^{2016 hrs} ^{2040 hrs} ^{2064 hrs} ^{2088 hrs} ^{2112 hrs} ^{2136 hrs} ^{2160 hrs} ^{2184 hrs} ^{2208 hrs} ^{2232 hrs} ^{2256 hrs} ^{2280 hrs} ^{2304 hrs} ^{2328 hrs} ^{2352 hrs} ^{2376 hrs} ^{2400 hrs} ^{2424 hrs} ^{2448 hrs} ^{2472 hrs} ^{2496 hrs} ^{2520 hrs} ^{2544 hrs} ^{2568 hrs} ^{2592 hrs} ^{2616 hrs} ^{2640 hrs} ^{2664 hrs} ^{2688 hrs} ^{2712 hrs} ^{2736 hrs} ^{2760 hrs} ^{2784 hrs} ^{2808 hrs} ^{2832 hrs} ^{2856 hrs} ^{2880 hrs} ^{2904 hrs} ^{2928 hrs} ^{2952 hrs} ^{2976 hrs} ^{3000 hrs} ^{3024 hrs} ^{3048 hrs} ^{3072 hrs} ^{3096 hrs} ^{3120 hrs} ^{3144 hrs} ^{3168 hrs} ^{3192 hrs} ^{3216 hrs} ^{3240 hrs} ^{3264 hrs} ^{3288 hrs} ^{3312 hrs} ^{3336 hrs} ^{3360 hrs} ^{3384 hrs} ^{3408 hrs} ^{3432 hrs} ^{3456 hrs} ^{3480 hrs} ^{3504 hrs} ^{3528 hrs} ^{3552 hrs} ^{3576 hrs} ^{3600 hrs} ^{3624 hrs} ^{3648 hrs} ^{3672 hrs} ^{3696 hrs} ^{3720 hrs} ^{3744 hrs} ^{3768 hrs} ^{3792 hrs} ^{3816 hrs} ^{3840 hrs} ^{3864 hrs} ^{3888 hrs} ^{3912 hrs} ^{3936 hrs} ^{3960 hrs} ^{3984 hrs} ^{4008 hrs} ^{4032 hrs} ^{4056 hrs} ^{4080 hrs} ^{4104 hrs} ^{4128 hrs} ^{4152 hrs} ^{4176 hrs} ^{4200 hrs} ^{4224 hrs} ^{4248 hrs} ^{4272 hrs} ^{4296 hrs} ^{4320 hrs} ^{4344 hrs} ^{4368 hrs} ^{4392 hrs} ^{4416 hrs} ^{4440 hrs} ^{4464 hrs} ^{4488 hrs} ^{4512 hrs} ^{4536 hrs} ^{4560 hrs} ^{4584 hrs} ^{4608 hrs} ^{4632 hrs} ^{4656 hrs} ^{4680 hrs} ^{4704 hrs} ^{4728 hrs} ^{4752 hrs} ^{4776 hrs} ^{4800 hrs} ^{4824 hrs} ^{4848 hrs} ^{4872 hrs} ^{4896 hrs} ^{4920 hrs} ^{4944 hrs} ^{4968 hrs} ^{4992 hrs} ^{5016 hrs} ^{5040 hrs} ^{5064 hrs} ^{5088 hrs} ^{5112 hrs} ^{5136 hrs} ^{5160 hrs} ^{5184 hrs} ^{5208 hrs} ^{5232 hrs} ^{5256 hrs} ^{5280 hrs} ^{5304 hrs} ^{5328 hrs} ^{5352 hrs} ^{5376 hrs} ^{5400 hrs} ^{5424 hrs} ^{5448 hrs} ^{5472 hrs} ^{5496 hrs} ^{5520 hrs} ^{5544 hrs} ^{5568 hrs} ^{5592 hrs} ^{5616 hrs} ^{5640 hrs} ^{5664 hrs} ^{5688 hrs} ^{5712 hrs} ^{5736 hrs} ^{5760 hrs} ^{5784 hrs} ^{5808 hrs} ^{5832 hrs} ^{5856 hrs} ^{5880 hrs} ^{5904 hrs} ^{5928 hrs} ^{5952 hrs} ^{5976 hrs} ^{6000 hrs} ^{6024 hrs} ^{6048 hrs} ^{6072 hrs} ^{6096 hrs} ^{6120 hrs} ^{6144 hrs} ^{6168 hrs} ^{6192 hrs} ^{6216 hrs} ^{6240 hrs} ^{6264 hrs} ^{6288 hrs} ^{6312 hrs} ^{6336 hrs} ^{6360 hrs} ^{6384 hrs} ^{6408 hrs} ^{6432 hrs} ^{6456 hrs} ^{6480 hrs} ^{6504 hrs} ^{6528 hrs} ^{6552 hrs} ^{6576 hrs} ^{6600 hrs} ^{6624 hrs} ^{6648 hrs} ^{6672 hrs} ^{6696 hrs} ^{6720 hrs} ^{6744 hrs} ^{6768 hrs} ^{6792 hrs} ^{6816 hrs} ^{6840 hrs} ^{6864 hrs} ^{6888 hrs} ^{6912 hrs} ^{6936 hrs} ^{6960 hrs} ^{6984 hrs} ^{7008 hrs} ^{7032 hrs} ^{7056 hrs} ^{7080 hrs} ^{7104 hrs} ^{7128 hrs} ^{7152 hrs} ^{7176 hrs} ^{7200 hrs} ^{7224 hrs} ^{7248 hrs} ^{7272 hrs} ^{7296 hrs} ^{7320 hrs} ^{7344 hrs} ^{7368 hrs} ^{7392 hrs} ^{7416 hrs} ^{7440 hrs} ^{7464 hrs} ^{7488 hrs} ^{7512 hrs} ^{7536 hrs} ^{7560 hrs} ^{7584 hrs} ^{7608 hrs} ^{7632 hrs} ^{7656 hrs} ^{7680 hrs} ^{7704 hrs} ^{7728 hrs} ^{7752 hrs} ^{7776 hrs} ^{7800 hrs} ^{7824 hrs} ^{7848 hrs} ^{7872 hrs} ^{7896 hrs} ^{7920 hrs} ^{7944 hrs} ^{7968 hrs} ^{7992 hrs} ^{8016 hrs} ^{8040 hrs} ^{8064 hrs} ^{8088 hrs} ^{8112 hrs} ^{8136 hrs} ^{8160 hrs} ^{8184 hrs} ^{8208 hrs} ^{8232 hrs} ^{8256 hrs} ^{8280 hrs} ^{8304 hrs} ^{8328 hrs} ^{8352 hrs} ^{8376 hrs} ^{8400 hrs} ^{8424 hrs} ^{8448 hrs} ^{8472 hrs} ^{8496 hrs} ^{8520 hrs} ^{8544 hrs} ^{8568 hrs} ^{8592 hrs} ^{8616 hrs} ^{8640 hrs} ^{8664 hrs} ^{8688 hrs} ^{8712 hrs} ^{8736 hrs} ^{8760 hrs} ^{8784 hrs} ^{8808 hrs} ^{8832 hrs} ^{8856 hrs} ^{8880 hrs} ^{8904 hrs} ^{8928 hrs} ^{8952 hrs} ^{8976 hrs} ^{9000 hrs} ^{9024 hrs} ^{9048 hrs} ^{9072 hrs} ^{9096 hrs} ^{9120 hrs} ^{9144 hrs} ^{9168 hrs} ^{9192 hrs} ^{9216 hrs} ^{9240 hrs} ^{9264 hrs} ^{9288 hrs} ^{9312 hrs} ^{9336 hrs} ^{9360 hrs} ^{9384 hrs} ^{9408 hrs} ^{9432 hrs} ^{9456 hrs} ^{9480 hrs} ^{9504 hrs} ^{9528 hrs} ^{9552 hrs} ^{9576 hrs} ^{9600 hrs} ^{9624 hrs} ^{9648 hrs} ^{9672 hrs} ^{9696 hrs} ^{9720 hrs} ^{9744 hrs} ^{9768 hrs} ^{9792 hrs} ^{9816 hrs} ^{9840 hrs} ^{9864 hrs} ^{9888 hrs} ^{9912 hrs} ^{9936 hrs} ^{9960 hrs} ^{9984 hrs} ^{10000 hrs} ^{10024 hrs} ^{10048 hrs} ^{10072 hrs} ^{10096 hrs} ^{10120 hrs} ^{10144 hrs} ^{10168 hrs} ^{10192 hrs} ^{10216 hrs} ^{10240 hrs} ^{10264 hrs} ^{10288 hrs} ^{10312 hrs} ^{10336 hrs} ^{10360 hrs} ^{10384 hrs} ^{10408 hrs} ^{10432 hrs} ^{10456 hrs} ^{10480 hrs} ^{10504 hrs} ^{10528 hrs} ^{10552 hrs} ^{10576 hrs} ^{10600 hrs} ^{10624 hrs} ^{10648 hrs} ^{10672 hrs} ^{10696 hrs} ^{10720 hrs} ^{10744 hrs} ^{10768 hrs} ^{10792 hrs} ^{10816 hrs} ^{10840 hrs} ^{10864 hrs} ^{10888 hrs} ^{10912 hrs} ^{10936 hrs} ^{10960 hrs} ^{10984 hrs} ^{11000 hrs} ^{11024 hrs} ^{11048 hrs} ^{11072 hrs} ^{11096 hrs} ^{11120 hrs} ^{11144 hrs} ^{11168 hrs} ^{11192 hrs} ^{11216 hrs} ^{11240 hrs} ^{11264 hrs} ^{11288 hrs} ^{11312 hrs} ^{11336 hrs} ^{11360 hrs} ^{11384 hrs} ^{11408 hrs} ^{11432 hrs} ^{11456 hrs} ^{11480 hrs} ^{11504 hrs} ^{11528 hrs} ^{11552 hrs} ^{11576 hrs} ^{11600 hrs} ^{11624 hrs} ^{11648 hrs} ^{11672 hrs} ^{11696 hrs} ^{11720 hrs} ^{11744 hrs} ^{11768 hrs} ^{11792 hrs} ^{11816 hrs} ^{11840 hrs} ^{11864 hrs} ^{11888 hrs} ^{11912 hrs} ^{11936 hrs} ^{11960 hrs} ^{11984 hrs} ^{12000 hrs} ^{12024 hrs} ^{12048 hrs} ^{12072 hrs} ^{12096 hrs} ^{12120 hrs} ^{12144 hrs} ^{12168 hrs} ^{12192 hrs} ^{12216 hrs} ^{12240 hrs} ^{12264 hrs} ^{12288 hrs} ^{12312 hrs} ^{12336 hrs} ^{12360 hrs} ^{12384 hrs} ^{12408 hrs} ^{12432 hrs} ^{12456 hrs} ^{12480 hrs} ^{12504 hrs} ^{12528 hrs} ^{12552 hrs} ^{12576 hrs} ^{12600 hrs} ^{12624 hrs} ^{12648 hrs} ^{12672 hrs} ^{12696 hrs} ^{12720 hrs} ^{12744 hrs} ^{12768 hrs} ^{12792 hrs} ^{12816 hrs} ^{12840 hrs} ^{12864 hrs} ^{12888 hrs} ^{12912 hrs} ^{12936 hrs} ^{12960 hrs} ^{12984 hrs} ^{13000 hrs} ^{13024 hrs} ^{13048 hrs} ^{13072 hrs} ^{13096 hrs} ^{13120 hrs} ^{13144 hrs} ^{13168 hrs} ^{13192 hrs} ^{13216 hrs} ^{13240 hrs} ^{13264 hrs} ^{13288 hrs} ^{13312 hrs} ^{13336 hrs} ^{13360 hrs} ^{13384 hrs} ^{13408 hrs} ^{13432 hrs} ^{13456 hrs} ^{13480 hrs} ^{13504 hrs} ^{13528 hrs} ^{13552 hrs} ^{13576 hrs} ^{13600 hrs} ^{13624 hrs} ^{13648 hrs} ^{13672 hrs} ^{13696 hrs} ^{13720 hrs} ^{13744 hrs} ^{13768 hrs} ^{13792 hrs} ^{13816 hrs} ^{13840 hrs} ^{13864 hrs} ^{13888 hrs} ^{13912 hrs} ^{13936 hrs} ^{13960 hrs} ^{13984 hrs} ^{14000 hrs} ^{14024 hrs} ^{14048 hrs} ^{14072 hrs} ^{14096 hrs} ^{14120 hrs} ^{14144 hrs} ^{14168 hrs} ^{14192 hrs} ^{14216 hrs} ^{14240 hrs} ^{14264 hrs} ^{14288 hrs} ^{14312 hrs} ^{14336 hrs} ^{14360 hrs} ^{14384 hrs} ^{14408 hrs} ^{14432 hrs} ^{14456 hrs} ^{14480 hrs} ^{14504 hrs} ^{14528 hrs} ^{14552 hrs} ^{14576 hrs} ^{14600 hrs} ^{14624 hrs} ^{14648 hrs} ^{14672 hrs} ^{14696 hrs} ^{14720 hrs} ^{14744 hrs} ^{14768 hrs} ^{14792 hrs} ^{14816 hrs} ^{14840 hrs} ^{14864 hrs} ^{14888 hrs} ^{14912 hrs} ^{14936 hrs} ^{14960 hrs} ^{14984 hrs} ^{15000 hrs} ^{15024 hrs} ^{15048 hrs} ^{15072 hrs} ^{15096 hrs} ^{15120 hrs} ^{15144 hrs} ^{15168 hrs} ^{15192 hrs} ^{15216 hrs} ^{15240 hrs} ^{15264 hrs} ^{15288 hrs} ^{15312 hrs} ^{15336 hrs} ^{15360 hrs} ^{15384 hrs} ^{15408 hrs} ^{15432 hrs} ^{15456 hrs} ^{15480 hrs} ^{15504 hrs} ^{15528 hrs} ^{15552 hrs} ^{15576 hrs} ^{15600 hrs} ^{15624 hrs} ^{15648 hrs} ^{15672 hrs} ^{15696 hrs} ^{15720 hrs} ^{15744 hrs} ^{15768 hrs} ^{15792 hrs} ^{15816 hrs} ^{15840 hrs} ^{15864 hrs} ^{15888 hrs} ^{15912 hrs} ^{15936 hrs} ^{15960 hrs} ^{15984 hrs} ^{16000 hrs} ^{16024 hrs} ^{16048 hrs} ^{16072 hrs} ^{16096 hrs} ^{16120 hrs} ^{16144 hrs} ^{16168 hrs} ^{16192 hrs} ^{16216 hrs} ^{16240 hrs} ^{16264 hrs} ^{16288 hrs} ^{16312 hrs} ^{16336 hrs} ^{16360 hrs} ^{16384 hrs} ^{16408 hrs} ^{16432 hrs} ^{16456 hrs} ^{16480 hrs} ^{16504 hrs} ^{16528 hrs} ^{16552 hrs} ^{16576 hrs} ^{16600 hrs} ^{16624 hrs} ^{16648 hrs} ^{16672 hrs} ^{16696 hrs} ^{16720 hrs} ^{16744 hrs} ^{16768 hrs} ^{16792 hrs} ^{16816 hrs} ^{16840 hrs} ^{16864 hrs} ^{16888 hrs} ^{16912 hrs} ^{16936 hrs} ^{16960 hrs} ^{16984 hrs} ^{17000 hrs} ^{17024 hrs} ^{17048 hrs} ^{17072 hrs} ^{17096 hrs} ^{17120 hrs} ^{17144 hrs} ^{17168 hrs} ^{17192 hrs} ^{17216 hrs} ^{17240 hrs} ^{17264 hrs} ^{17288 hrs} ^{17312 hrs} ^{17336 hrs} ^{17360 hrs} ^{17384 hrs} ^{17408 hrs} ^{17432 hrs} ^{17456 hrs} ^{17480 hrs} ^{17504 hrs} ^{17528 hrs} ^{17552 hrs} ^{17576 hrs} ^{17600 hrs} ^{17624 hrs} ^{17648 hrs} ^{17672 hrs} ^{17696 hrs} ^{17720 hrs} ^{17744 hrs} ^{17768 hrs} ^{17792 hrs} ^{17816 hrs} ^{17840 hrs} ^{17864 hrs} ^{17888 hrs} ^{17912 hrs} ^{17936 hrs} ^{17960 hrs} ^{17984 hrs} ^{18000 hrs} ^{18024 hrs} ^{18048 hrs} ^{18072 hrs} ^{18096 hrs} ^{18120 hrs} ^{18144 hrs} ^{18168 hrs} ^{18192 hrs} ^{18216 hrs} ^{18240 hrs} ^{18264 hrs} ^{18288 hrs} ^{18312 hrs} ^{18336 hrs} ^{18360 hrs} ^{18384 hrs} ^{18408 hrs} ^{18432 hrs} ^{18456 hrs} ^{18480 hrs} ^{18504 hrs} ^{18528 hrs} ^{18552 hrs} ^{18576 hrs} ^{18600 hrs} ^{18624 hrs} ^{18648 hrs} ^{18672 hrs} ^{18696 hrs} ^{18720 hrs} ^{18744 hrs} ^{18768 hrs} ^{18792 hrs} ^{18816 hrs} ^{18840 hrs} ^{18864 hrs} ^{18888 hrs} ^{18912 hrs} ^{18936 hrs} ^{18960 hrs} ^{18984 hrs} ^{19000 hrs} ^{19024 hrs} ^{19048 hrs} ^{19072 hrs} ^{19096 hrs} ^{19120 hrs} ^{19144 hrs} ^{19168 hrs} ^{19192 hrs} ^{19216 hrs} ^{19240 hrs} ^{19264 hrs} ^{19288 hrs} ^{19312 hrs} ^{19336 hrs} ^{19360 hrs} ^{19384 hrs} ^{19408 hrs} ^{19432 hrs} ^{19456 hrs} ^{19480 hrs} ^{19504 hrs} ^{19528 hrs} ^{19552 hrs} ^{19576 hrs} ^{19600 hrs} ^{19624 hrs} ^{19648 hrs} ^{19672 hrs} ^{19696 hrs} ^{19720 hrs} ^{19744 hrs} ^{19768 hrs} ^{19792 hrs} ^{19816 hrs} ^{19840 hrs} ^{19864 hrs} ^{19888 hrs} ^{19912 hrs} ^{19936 hrs} ^{19960 hrs} ^{19984 hrs} ^{20000 hrs} ^{20024 hrs} ^{20048 hrs} ^{20072 hrs} ^{20096 hrs} ^{20120 hrs} ^{20144 hrs} ^{20168 hrs} ^{20192 hrs} ^{20216 hrs} ^{20240 hrs} ^{20264 hrs} ^{20288 hrs} ^{20312 hrs} ^{20336 hrs} ^{20360 hrs} ^{20384 hrs} ^{20408 hrs} ^{20432 hrs} ^{20456 hrs} ^{20480 hrs} ^{20504 hrs} ^{20528 hrs} ^{20552 hrs} ^{20576 hrs} ^{20600 hrs} ^{20624 hrs} ^{20648 hrs} ^{20672 hrs} ^{20696 hrs} ^{20720 hrs} ^{20744 hrs} ^{20768 hrs} ^{20792 hrs} ^{20816 hrs} ^{20840 hrs} ^{20864 hrs} ^{20888 hrs} ^{20912 hrs} ^{20936 hrs} ^{20960 hrs} ^{20984 hrs} ^{21000 hrs} ^{21024 hrs} ^{21048 hrs} ^{21072 hrs} ^{21096 hrs} ^{21120 hrs} ^{21144 hrs} ^{21168 hrs} ^{21192 hrs} ^{21216 hrs} ^{21240 hrs} ^{21264 hrs} ^{21288 hrs} ^{21312 hrs} ^{21336 hrs} ^{21360 hrs} ^{21384 hrs} ^{21408 hrs} ^{21432 hrs} ^{21456 hrs} ^{21480 hrs} ^{21504 hrs} ^{21528 hrs} ^{21552 hrs} ^{21576 hrs} ^{21600 hrs} ^{21624 hrs} ^{21648 hrs} ^{21672 hrs} ^{21696 hrs} ^{21720 hrs} ^{21744 hrs} ^{21768 hrs} ^{21792 hrs} ^{21816 hrs} ^{21840 hrs} ^{21864 hrs} ^{21888 hrs} ^{21912 hrs} ^{21936 hrs} ^{21960 hrs} ^{21984 hrs} ^{22000 hrs} ^{22024 hrs} ^{22048 hrs} ^{22072 hrs} ^{22096 hrs} ^{22120 hrs} ^{22144 hrs} ^{22168 hrs} ^{22192 hrs} ^{22216 hrs} ^{22240 hrs} ^{22264 hrs} ^{22288 hrs} ^{22312 hrs} ^{22336 hrs} ^{22360 hrs} ^{22384 hrs} ^{22408 hrs} ^{22432 hrs} ^{22456 hrs} ^{22480 hrs} ^{22504 hrs} ^{22528 hrs} ^{22552 hrs} ^{22576 hrs} ^{22600 hrs} ^{22624 hrs} ^{22648 hrs} ^{22672 hrs} ^{22696 hrs} ^{22720 hrs} ^{22744 hrs} ^{22768 hrs} ^{22792 hrs} ^{22816 hrs} ^{22840 hrs} ^{22864 hrs} ^{22888 hrs} ^{22912 hrs} ^{22936 hrs} ^{22960 hrs} ^{22984 hrs} ^{23000 hrs} ^{23024 hrs} ^{23048 hrs} ^{23072 hrs} ^{23096 hrs} ^{23120 hrs} ^{23144 hrs} ^{23168 hrs} ^{23192 hrs} ^{23216 hrs} ^{23240 hrs} ^{23264 hrs} ^{23288 hrs} ^{23312 hrs} ^{23336 hrs} ^{23360 hrs} ^{23384 hrs} ^{23408 hrs} ^{23432 hrs} ^{23456 hrs} ^{23480 hrs} ^{23504 hrs} ^{23528 hrs} ^{23552 hrs} ^{23576 hrs} ^{23600 hrs} ^{23624 hrs} ^{23648 hrs} ^{23672 hrs} ^{23696 hrs} ^{23720 hrs} ^{23744 hrs} ^{23768 hrs} ^{23792 hrs} ^{23816 hrs} ^{23840 hrs} ^{23864 hrs} ^{23888 hrs} ^{23912 hrs} ^{23936 hrs} ^{23960 hrs} ^{23984 hrs} ^{24000 hrs} ^{24024 hrs} ^{24048 hrs} ^{24072 hrs} ^{24096 hrs} ^{24120 hrs} ^{24144 hrs} ^{24168 hrs} ^{24192 hrs} ^{24216 hrs} ^{24240 hrs} ^{24264 hrs} ^{24288 hrs} ^{24312 hrs} ^{24336 hrs} ^{24360 hrs} ^{24384 hrs} ^{24408 hrs} ^{24432 hrs} ^{24456 hrs} ^{24480 hrs} ^{24504 hrs} ^{24528 hrs} ^{24552 hrs} ^{24576 hrs} ^{24600 hrs} ^{24624 hrs} ^{24648 hrs} ^{24672 hrs} ^{24696 hrs} ^{24720 hrs} ^{24744 hrs} ^{24768 hrs} ^{24792 hrs} ^{24816 hrs} ^{24840 hrs} ^{24864 hrs} ^{24888 hrs} ^{24912 hrs} ^{24936 hrs} ^{24960 hrs} ^{24984 hrs} ^{25000 hrs} ^{25024 hrs} ^{25048 hrs} ^{25072 hrs} ^{25096 hrs}

The disease most resembling Remittent and with which it is most apt to be confounded is Ectic Fever.

at this time a copious discharge of limpid urine and the bowels remain ¹⁷⁷
removed, the patient becomes comatose often to an alarming degree and
even has a tendency to apoplexy in some cases. This state of things lasts for
one or two hours when the heat spreads over the whole body, the face be-
comes red there is a throbbing in the temples, pains in the head, anxiety,
restlessness and a tendency to delirium also to apoplexy, the pulse is
strong, voluminous and vehement and anxious respiration. After sometime a slight
moisture appears on the forehead which gradually increases over the body and
sweating becomes profuse, the heat and thirst abating and the functions returning
to their healthy state, and the urine now deposits a Laticious sediment -
This is a general account of the regular and most important symptoms, but you
will see in ~~another~~, others added, and also some anomalies stated. Clegdon
and Senac mention cases in which the cold stage was entirely wanting; the
same has been observed by some authors of the hot stage; also, that in some cases
the hot precedes the cold stage; to this has been the cold stage seems more
generally to be present when the cause of the disease is seated in the stom-
ach added by Jackson that the paroxysms goes off by urine and by stool
without any moisture on the skin. another irregularity in the attack of
an Intermittent fever is, that it is sometimes located in one part of the body
only, as in a limb which will be affected by the symptoms of the three sta-
ges of the paroxysm. I have known it seated in the eyes, which every other
day would be attacked by pain which would gradually subside; this
was cured by the remedies for fever. I have lately been called to a Lady,
who every other day was attacked by a severe pain in the lower part of the
abdomen; as she came from a miasmatic country, and had been subject
to Intermittent fever - it was suspected that this periodical return of
pain depended on some disposition of the Constitution for this disease,
Fowler's solution was directed and she recovered. Dr. Rush was very

When the patient dies in the cold stage we find the internal vessels congested - when in the hot we find the appearances of inflammation and apoplexy generally - from Rupture or abscess in a vessel in the brain itself or its meninges, and the upper portion of the alimentary canal.

- ⑦ "Dissections of those who have died of an Intermittent, shewed a morbid state of many of the viscera of the thorax and abdomen; but the Liver, and organs concerned in the formation of bile, as likewise the spleen and mesentary, are those which are usually most affected."

much condemned for advancing this opinion that the fever existed in the 17th & 18th ages, yet I believe he never advanced one that was better founded. I shall have occasion to notice some curious facts of this nature in my course, at present you may remember from what has been said how exceedingly deceptive the attack of fever is in many cases and how much attention is required to treat certain diseases apparently well marked.

As to the CAUSES of Intermittents much controversy has existed, this has in a great measure subsided and it is generally admitted that they are produced by Marsh Exhalations. Lancet was the first who mentioned this and his opinion has been confirmed by succeeding observations made in every country. As to the precise nature of these miasmata little is known they appear to arise from the putrefaction of animal and vegetable matter; fevers often arise where no miasmata can be supposed to exist, but the distance they can be carried by the winds should be taken into the account. But although the effects of miasmata is sufficiently well established yet there are other causes which contribute to the production of fevers; as whatever debilitates the system as meagre diet, fatigue, mental anxiety, excessive evacuations, also cold especially when combined with moisture, as with wet clothes, exposure to rain, damp rooms, damp beds &c. It has been said that contagion may act as a cause, this has been asserted so universally that we cannot wholly doubt it, but when any such cause is manifest, it must be where typhus action is formed as in Hospitals, Camps, Ships &c. (P)

Diagnosis - Intermittents are not difficult to distinguish from other diseases - The one which it is most apt to be confounded with, is Hectic fever - (See Hectic fever page 333)

In the congestive form of Indigestion
 marks or its preparations, must be freely
 administered, together with this I have
 seen good effects result from black
 pepper or piperine, sometimes it will
 also be necessary to exhibit a glass
 of wine or wine when, a teaspoonful
 of Turpentine given, two or three hours
 must I have found bark to answer
 all the indications. Sulphate of quinine
 with water and Laudanum, being useful,
 when inflammation is blended with the
 diseases as pleurisy, dysentery, &c. &c.
 should be directed to the latter disease.
 Chronic Indigestion kept up by habit
 or chronic inflammation of the bowels, &c. &c.
 cupping, blistering, I have generally
 found sufficient, in obstruction of the
 viscera it will not generally yield
 to these remedies Mercury in small
 doses, when kept up by habit small
 blisters on the extremities have
 been recommended by Dr. Rush by
 better by a blister over the epigastrium
 or pustulating the same surface
 with tartar emetic or croton
 oil, or by exhibiting emetics for

Having finished our observations on the theoretical parts of fever, we come now to treat of the management of Intermittent fever, this naturally presents itself under two heads - 1st Treatment during the paroxysm. 2nd the Treatment during the interval or apyrexia --

Following the indications pointed out by the disease we sedulously imitate nature in our treatment and endeavour to excite perspiration -

Called to a patient in the cold stage of an Intermittent we should immediately put him into a warm bed, direct topical applications of warm substances to his extremities and abdomen, as warm Bricks, Bottles filled with warm water &c. also we should give him some warm drinks especially the herb teas, or where some slight stimulus is required wine whey, many practitioners are very much attached to the use of Opium in the cold stage; this was originally introduced by Dr. Trotter who gave it in the form of Laudanum grt. xxx. of which would generally arrest the progress of the paroxysm. to the efficacy of this plan I would bear the amplest testimony, the Opium produces the most agreeable effects. The dose of Dr. Trotter is commonly sufficient but sometimes it is necessary to increase it to 3 or 4 times the quantity the immediate effects are to quiet the rigors, to diffuse a gentle warmth and moisture over the whole body and to relieve the pains in the head and extremities. Twenty years ago the application of the Tourniquet to the arms and legs on the opposite side was recommended by Dr. Helling; the modus operandi of this may easily be explained, by the blood in this manner being collected in the veins and large arteries a greater resistance was given to the action of those organs and their power and force was thus increased by which that stage was induced, Practice does not however confirm this method which "a priori" seems so probable, I have seen it tried several times in the hospital in Edinburgh but with no advantage whatever, not very long ago Dr. Helling published again and very strongly recommended

Three successive mornings, during
the rest of the apyrexia the patient
should be kept under the moderate
influence of laudanum, but should
there be gastric eructa are
totally inadmissible, but where
there is no phlegasia in obstructive
vicera, give the barks at the same
time that you give small
portions of mercury.

The phlegmasia sometimes takes on
the intermitter form, the best
treatment is antiphlogistic purely
and do not give tonics, if you
cure the phlegmasia you cure
the fever, but where the
inflammation has somewhat
subsided, sulphate of quinine is
the best, where the bowels have
been phlogosed, Regimen
where subdued by antiphlogistic
treatment, the diet should be
light, but where it pertains
to the typhoid character, calomel
food jelly is to be preferred, but
egg, oysters may be substituted

Dr Chapman Nov 25 - 12 M

this plan; this is another proof of the ~~fact~~ fact that the same remedy in different hands will produce very opposite effects - - 83

Emetics. when the cold stage is ~~very~~ violent and menacing and dangerous consequences ^{seem likely to follow,} the best remedy is an Emetic, which usually affords relief during its operation. Emetics have been strongly recommended in the cold stage, that they are sometimes useful there can be no doubt by inducing action in the system and diminishing the symptoms of the cold stage, but it is always an unpleasant remedy and should be had recourse to only in particular cases. During the hot stage the indications are to remove the irritations which may keep it up and to induce perspiration. The irritations which may arise from bile on the stomach vomiting is clearly indicated and should be excited: the necessity is often superseded by spontaneous vomiting in which case all that is to be done is to facilitate it by the free use of warm water, warm teas &c. To fulfill the second indication we trust to diaphoretics; ~~but this~~ The Europeans employ James's Powder. But in this country although it is an important medicine yet it cannot be had, we employ the several preparations of Antimony especially small doses of the Emetic Tartar. In the country and often in the city also we employ with this view the Eupatorium perfoliatum which is one of the best most active and certain Diaphoretics we possess and is found to be very effectual; It is given in infusion, many physicians especially those in warm climates employ opium in the hot fit. To Dr. Lind we are indebted for this plan ~~as~~ he observes that a solution of the paroxysm takes place, that the system is prepared for the subsequent employment of the bark and other tonics, and also that it prevents congestion of the viscera, with their consequences, as dropsy, ^{Jaundice} ~~Scirrhus~~ &c. Notwithstanding the authority by which it is supported I would not recommend this practice to you: induced by this respectable recommendation, I have employed opium under

In Cases where there is much irritability of stomach, the following,
Draught of Riverius— Dissolve 40 or 50 grains of the salt of Tartar in
 half a wine glass full of water; add gradually the citric acid or sharp
 vinegar, till the fixed air is disengaged, when, in this foaming state it
 is swallowed.

Saline or Neutral mixture

Rx. Succin. Limon. recent. vel Acet. Acid. ℥ij.

Sal. Tartar. ——— ℥i. s. ad satum and. adde

Aq. font. ——— ℥ij.

Sacch. Alb. ——— ℥ij. The dose a table-

spoonful. To increase its diaphoretic power, the dulcified spirit of
 nitric and ant. wine may be added, in such proportions as may
 seem necessary.

Alkaline Mixture.

Rx. Gum Arab. ——— ℥i.

carb. Potash. ——— ℥i.

℞. opii ——— ℥ij.

oil of mint ——— 60 gutts.

Aq. ——— ℥iv. m.

Dose a table spoonful every

half hour

such circumstances contrary to my theoretical opinions of its operation, 185
but in every instance the fever was increased and decidedly protracted; and
the pains in the head was rendered more distressing. It is hard to doubt
the testimony of Dr. Lind, and it may perhaps be useful in warm countries
but certainly it is not in this place. where I employed opium under these cir-
cumstances I combined it with antimony or with Spicaeana in the
form of pulv: ip: comp: by this its heating power was abated. Dr. Chap-
man's opinion of the use of opium seems to be somewhat altered. He speaks
highly of its use in the hot stage of fever, but it is where there are no inflam-
matory symptoms. Diaphoresis is also often excited with great advantage
by the Spts. Mindereri 3j. is given to be repeated if necessary, the advan-
tages which it possesses are 1st that the perspiration is more prompt and
complete. 2nd It is always certain in its effects. It is also grateful to the
stomach and will often be retained when others are rejected. This practice
will answer in ordinary cases. But sometimes the fever has more of an inflam-
matory type and demands other remedies. This is especially the case in
the spring of the year, and also during our inflammatory epidemics. But
this state can be determined by corresponding symptoms, there is a strong,
full pulse and flushed countenance, laborious respiration, local pains,
especially in the head and sides. In these cases the lancet is not to be spared.
Bleeding is to be employed, the alimentary canal is to be fully evacuated either
by Emetics or mercurial purges. Mild Diaphoretics are at the same time
to be employed as the Spts. Mindereri as just mentioned or the Ant: wine
with the sweet Spts. of Nitre. Sometimes Intermittents have a different
type approaching to a typhus form this is sometimes seen in hospitals, or
during the prevalence of malignant epidemics. a different treatment
is here required the paroxysms now to be managed by cordials, by Stim-
ulating Diaphoretics, by all the auxiliary means by which we can

Cinchona Cordifolia - *Cinchona flava* - yellow Barks -
Cinchona Lancifolia - *Cinchona Pallida* - Pale
Cinchona - *oblongifolia* - *Cinchona Rubra* - Red Barks -

By vomiting every morning for a number of days successively, some of the
 most obstinate cases have been cured by Dr. Chapman - as soon
 as the operation is over give 10 or 12 drops of Turpentine
 in 10 or 12 hours

improve the tone of the system - The Treatment during the apyrexia or interval ⁸⁷
may be considered under two heads those that are to be employed during the on-
the intermission and those employed on the approach of the paroxysm, to meet
the first indication the Peruvian Bark is the best remedy, It has main-
tained its superiority to every other, and has outlived many theories, which
have at various times been formed. to account for its operation the rules to be ob-
served in its administration are not generally agreed upon although on
this point there have been great disputes - It was formerly supposed that the fev-
er should be allowed to progress for sometime before the bark was given - that the
morbific influence might be expelled; this was the opinion of Boerhaave,
Vanswieten and Sydenham. At the present time it is given immediately,
the earlier the more speedy will be the cure - Some have maintained that it
was not necessary to attend to the condition of the alimentary canal or pre-
pare the system generally previous to the exhibition of the bark -

This however is not the common opinion among practitioners, but as a gen-
eral rule we should evacuate ^{the stomach} by puking and the intestines by purging -
The bark may and very often does succeed of itself without any previous
evacuation; But as a general rule, it is hazardous to proceed on this plan
by an Emetic or a mercurial purge, all irritating, foul accumulations
are removed, and the system rendered infinitely more susceptible to the opera-
tion of the medicines; these are performed by the Tart. Emetic and the Calo-
mel - The vomiting has lately given way in a great measure to the mercurial
purges; this is often very well, but sometimes Emetics are not to be dispensed with,
as they act not only as evacuants but also by exciting a powerful action in
the stomach, thereby breaking down the train of perverted association on which
depends the regular return of this & other periodical diseases - of the efficacy
of Emetics in such cases my own practice would afford many examples, (7)
Besides these D-Section is occasionally most imperiously demanded and

should always be employed in the commencement of inflammatory cases. With 89
out it the bark is usually rejected by the irritable stomach, or if retained aggravates
the disease. I therefore never, no never, administer Bark until the system is thus pre-
pared for its reception. and I am persuaded that in this manner the Cinchona wo-
uld soon become deserving of its ancient appellation by being a specific for the cure
of Intermitt. fever. Sometimes Intermittents are accompanied with visceral ob-
structions, in such cases the bark has been condemned. On this subject Dr Cullen
makes the following observations; "That there may be such cases says he I can-
not determine, but if it would be dangerous to admit a general rule on this sub-
ject, I am convinced that it is in the cold stage of fevers that accumulations
of blood take place in the Liver and Spleen and that these accumulations
are increased by every repetition of the paroxysm; the question has several
times occurred to me in the case of persons subject to the attacks of Interm-
ittent, and who had tumours and indurations remaining in the hypo-
chondria and in this situation having a return of the fever. In such
cases I have freely employed the Bark, and never found it to increase
these tumours but by avoiding and admitting the repetition of the
paroxysms disorders were brought on which often proved fatal."

As much for Dr. Cullen, I think the question may be easily adjusted by
the following rules. When there is no inflammatory action, I would not
hesitate to use the bark. but when there is pain in the sides with an
active pulse it is eminently mischievous, I trust to blisters and a sig-
ht salivation when there is much fever and pain then D.S. is often to be
added to the salivation. This treatment will often be effectual in
curing both the Intermittent fever and the obstructions. At one time
it was much disputed whether the bark should be given immediately
before the paroxysm; Dr Cullen thought that it should, In this I think
he is wrong, as instead of preventing the paroxysm it increases the fever.

Anatomy - Med - Surg - Chemistry

Diseases - Physiology - Midwifery

1 gr. Pul. Quinia equal to 3j. Trow. Bark

Wetherill's extract of Peruvian Bark deserving of great
Confidence. -

and the usual distress of the stomach; some have gone still further ~~than~~ 191
than Dr. Cullen among whom is Dr. Clark who recommends the Bark
during the whole of the paroxysm, this I have never imitated because
when I have prescribed it near the time of accession, I have always found
it injurious. It is now a rule among the ablest practitioners, that whenever
there is the slightest indication of an approaching paroxysm to discontinue
the bark. It is given in substance with milk, wine, brandy, Extr. Liqueur
which I lost completely ^{disguises} its taste. The dose is ℥j or ℥ij repeated as often as the
stomach will bear it, till ℥j is given during the interval of a tertian fever.

In the West-Indies it is customary to give ℥j in the morning at one dose
and no more through the day, I have known one case of a similar na-
ture in this city in which it was successful when ineffectual in
the usual manner; some persons cannot take the bark in substance, in
these minute doses; It may then be given in infusion or decoction
with cinnamon, orange-peel, fennel-seed, or what is best with the supun-
taria virginica which renders it much more pleasant and it is true that
these combinations are often effectual when the bark by itself is useless.
When the bark purges small doses of opium should be added when it
renders the bowels constipated a little Rhubarb is to be added, when
there is a quantity of acid in the stomach the bark is rejected whether
vegetable or mineral acids should be administered as correctors.
Some of the English Practitioners maintain that magnesia in-
creases the powers of the bark, but this can only be ⁴ given during the sto-
mach fit for its reception --

Although by the means above mentioned the due administration of the
bark may be duly accomplished, yet there are some persons who cannot
take it in any form. The alimentary canal is so irritable, that it is
immediately rejected either by vomiting, or carried off by the intestines.

Rx. — Bark — — — ℥j.
 Sal. Ammon — — — ℥j. div. in 4 or 5 pulv. 1 every 1½ hour.

℞. Bark — — — ℥j.
 Confect. opii — — — ℥j.
 Lemon juice — — — ℥ss.
 Elix vit. ℥j. Sulph. acid — — — ℥i.
 Port wine — — — ℥viij. — Dose a wine glass full 2 times a day.

The pale bark on analysis exhibits an alkaline base called
 Cinchonine — the yellow Quinine — the Red both.

Sulph. of Quinine — Dose 1 grain.

Salt of Bark dose 10 grains.

Bitter Extract — Dose 1 grain.

The Sulph. of Quinine is given in solution, with cinnamon wa-
 ter, to which a few drops of Sulph. acid may be added.

Rx. Sulph. Quinine — grviij.

Cinnamon water — — — ℥j.

Sulph. acid — — — qtt. w. Dose — ℥i.

Sometimes Gum Arab. may be added.

before it can produce the desired effect. It has been used in such ¹⁹³
^{cases} to administer it in the form of clysters. I have employed it in this way only
in the case of Children, as adults will not submit to the operation as of-
ten as necessary. It is possible that I may have employed it with some ad-
vantage, but I cannot say that administered in this way it is capable of
arresting an Intermitte: fever or indeed any other Disease. Another ob-
jection to its use in this way is that the rectum becomes so irritable by the
frequent introduction of the pipe that the bark cannot be retained for a
ny time. When used in this way Zij or Zij are to be entangled in a thick
muc: Gum Arab: or starch, or a Decoctn of Flaxseed or any other mucilages,
the quantity should be as small as possible, that it may not be rejected, it
is usual also to add a little Laudanum. The Cinchona has also been
employed as an external application in different modes. It catap-
lasm of it has been employed, by applying it to the stomach and other
parts, I have never used any of these, nor have I any confidence in them
in curing fever; the only cases in which they are useful is where there is
violent vomiting in pestilential fevers, or in cholera morbus; here cataplas-
ms of the bark are eminently useful. Baths of strong infusion or de-
coction, have been used both generally and locally, the immersion of the
feet in these infusions, in fever has been said to be useful, I have employed
the general bath, not however of cinchona but of the bark of the Large
Black oak with efficacy in children. It has been recommended in the
dry state. Dr. Darwin sprinkles the bed clothes very well with the powder;
but it requires a great stretch of credulity to rely on his boasted cures in
this way. It is true however in another way it has some advantage
and that is the bark jacket in which it is quilted under the lining
but the comparative effects of this are very feeble and not to be
used in violent cases but in very delicate women and children it is

① Bone Get.

no doubt useful in a few cases. The *modus operandi* in all those ¹⁹⁵ rational applications is very easy of explanation. The tonic impression on the skin is propagated to the stomach and by strengthening and invigorating that organ prevents the rising up of the various morbid affections depending on it, among the chief of which is the intermittent fever - after all the bark thus employed very generally fails and when compared to administering it in general diseases but little confidence -

The next remedy in point of efficacy to the bark is the Virg^a Serpent^a

This was long ago prescribed by Sydenham with wine - It was a general rule with him that when wine was indicated to give the serpentaria with it, whether the serpentaria is competent by itself to the cure of Intermittent fever in this confirmed state, I will not decide; with bark however a cure is often accomplished, when the bark "per se" has been altogether useless. There can be no doubt of its efficacy in this combination and there is one preparation which has been ~~more~~ used, which I beg leave to recommend to you, its powers are well ascertained and acknowledged -

R. Pulv^a Cinch: -- ʒss.

Pulv. Rad. Serpente - ʒss.

Soda Carb. -- -- ʒj. mixed and divided into

four powders, one to be given four times a day - why this should possess such extraordinary powers cannot be determined, we only know that combinations of medicines are often useful when each by themselves have little effect. This preparation has been often employed, and has again, and again succeeded when others have entirely failed. I recommend it to you with the greatest confidence. Of the Remedies afforded by our own country the Eupatorium Perfoliatum is really an extraordinary medicine and is of great value in fevers, by proper management, it will act as a Diaphoretic, Secretory, Emetic, Tonic. By its tonic and diaphoretic powers it meets

196

③ Century

⑥ Also, the Cornus Sericea. Dogwood ~~Sericea~~, red dogwood
red willow

⑦ Wild Cherry tree the bark

⑧ Black alder

⑨ Quercus

many indications especially in Intermittents. It can be exhibited ¹⁹⁷ at all stages of the paroxysms and hence has a decided superiority over all other remedies, the best mode of exhibiting it when a tonic impression is demanded is in powder or in cold decoction made as strong as possible, when given warm it loses its tonic power and acts as ^{an emetic} a diaphoretic and diuretic. I have employed it very frequently and often by it alone have succeeded in obstinate cases. Much other testimony might be brought forward but I will only observe that Dr. Hosack of New York has lately informed me that he trusts to ^{it} almost entirely. The Eupatorium ~~Pleurostachya~~ ^{*Seecrifolium*} or common horsehound is less powerful as a Diaphoretic. The Eupatorium is given in powder or decoction. The dose of the former is ℞j or ʒij of the decoct. ʒij every hour or two.

The ^{Sabbatia} ~~Chenopodium~~ Angularis ⁽⁵⁷⁾ is another medicine of considerable efficacy. It is given during every part of the paroxysms or during the intermission and is on that account superior to the bark; in some cases also it will remain on the stomach when the bark will not, it is a tonic and diaphoretic, a strong infusion is made and ʒviij is given as often as the stomach will bear it. It is much used by the country practitioners and in this city we had reason to be satisfied with its efficacy.

The Cornus Florida ⁽⁶⁾ is often a good substitute for the bark. It is given in pulv. infus. & decoct. The pulv. is the best in doses similar to the cinchona, the evidence in its favour is very conclusive and satisfactory.

The Prunus Virginiana ⁽⁶⁾ of this I have no experience in the cure of Intermittent, Dr. Barton recommends it very highly and it is much used by many of our country practitioners - does the same as the Peruvian bark.

The Prinos Verticillatus ⁽⁶⁾ or Black Alder, has been tried; It grows in marshy, wet places, and has been highly recommended. It is employed in decoction in similar doses with the cinchona, the bark of the root is the part used. The several species of the oak ⁽⁶⁾ have been much employed

② Salix-

③ American Populus

④ Dose in substance from ℥j to ℥ij-

⑤ Cusparia Febrifuga- South America-

⑥ A species of Mchogony

⑦- Dose ℥ss. or more in substance - also infusion, decoct.

The bark of the White oak is very similar in its chemical properties to the cin-¹⁹⁹
chona, but it is inferior to the bark of the black, and also to that of the Cherutoak.
There have been in some instances effectual and operate very much like
the peruvian bark. every species of Willow² possesses some valuable prop-
ties as regards Intermittent fevers, some experiments which I instituted
in the Almshouse on the Common willow proved it to be very useful. I
gave it in decoction as much as the patient would drink, It has been
well recommended in England and on the Continent of Europe, Will-
mson and others speak highly in its favour.

The Liriodendron Tulipifera³. Dr. Rush used this very much and con-
sidered it next the peruv. Bark; many have employed it since and with
contradictory results. It is still much used, Professor Barton recommends
it. It is given in decoct. and in substance, the latter appears to be the best.⁴

The Remedies which I have mentioned for Intermittents are the product
of our own country, I do not pretend that they have all high powers but you
should be acquainted with them as they are indigenous and easy of ac-
cep, so that they can be employed on any emergency. Of the articles pro-
cured from abroad the first is the Angustura⁵. It is not above 20 or
25 years since this was introduced into practice and recommended with
great confidence. It has since been very much ~~recommended~~ neglected
but within the last year appears to be again employed with success by the
English. In this city it has been much used in those cases of in stable stomach
and bowels where the cinchona cannot be employed; It is highly aromatic,
cordial & astringent, and is therefore well adapted to the above cases; It
is given in pulv. infus. and decoct. the dose of the former $\mathfrak{d}\text{ij}$ or $\mathfrak{z}\text{ss}$.

The Swietenia Febrifuga⁶ has been recommended by Dr. Rockbrough.
his observations have not been confirmed it is very like the Angustura⁷
The Cinchona Baribaea and Cinchona Jamaicensis have been

② Two species - Quapia Excelsa - Quapia Simaruba - dose
 ʒss or ʒj - better in decoction - ʒ℥ of the bark boiled in ℥ss of
 water to ℔j. drank in the course of the day -

④ Gentian given in infusion - Gentiana lutea -
Cascarilla - Croton Cascarilla or Eleutheria - dose pulv.
 from 12 to 30 grains -
 ⑤ Carbo Ligni -

employed, I have not found them of any use -

The Quassia² is one of the most grateful bitters we possess, I have used it with some success in mild cases but it is not proper for Confirmed Intermittents.

In continuing our observations on the remedies for Intermittent fevers I mention the Gum Kino, This was originally introduced by Dr. Fothergill of London, he found it as efficacious as to suppress the Cinchona. It has been employed to considerable extent in this city and the result appears to be, that by itself it is a feeble remedy and often fails in curing the disease when given in combination it is among the most powerful and effectual remedies in the following formula

\mathcal{R} Gum Kino. $\mathcal{Z}\mathcal{ij}$
Rad. Gentian - $\mathcal{Z}\mathcal{ss}$

Opium — $\mathcal{gr}\mathcal{ij}$ ul $\mathcal{gr}\mathcal{ij}$ mixed and divided into \times a $\mathcal{xi}\mathcal{j}$ pulv. one every two or three hours ^{during the quiescence} It is useful in intermits attended with bowels Complaints, — ④

Carbon or Charcoal has been very recently recommended by very strong authority, Dr. Robert physician to the English forces in the Mediterranean publish a paper on this subject. He says "that being at Sicily Dr. Calcegi of Palermo in that Island informed me that Charcoal given with an acid was very useful in Intermittent fevers, upon his authority I was induced to try it in an obstinate ague in my own hospital & succeeded in curing it, in my second attempt not understanding what effect the acid would have I omitted it and found that the Charcoal by itself was equally efficacious, from my subsequent experience I think that it is fully equal to the peruvian bark; it destroys the disagreeable taste in the mouth, allays nausea and sickness, stops vomiting when it has come on, increases the appetite and promotes digestion, the constitution appears to be benefitted by its use, it is said to prevent the recurrence of dysentery and also of fevers, in choosing the Charcoal I have

⑤ Oil of Turpentine. Dose 1 tea-spoonful 2 or 3 times
during the apyrexia.

not paid much attention
always make a selection
obliged" says she to Chas
ate my experiments with
Sicily Dr. Balbagny who
states that he has succeeded
double tertian he gave 3j
4 were cured by the time 3iij
during the intermission, in the
the fever-bark was given with im-
lemons has cured 8 persons by the skin
popular that the inhabitants of the Island
out the advice of a physician and with
this ~~is~~ true, it will prove a valuable addition
The Carbon has been lately much used in the
institutions, I understand with advantage, &
titled to our confidence. One of the Gentlemen of the
a this is on^{it} in which from his own observations and ex-
periments made to him, he concludes that it is very efficacious
succeeding where the bark and arsenic had failed. It is par-
ticularly applicable to those cases in which dysentery prevails (5)
of Late Sulphur, about 40 years ago Dr. Gianze in the Island of Lavo
employed it with excellent spirits, I formerly attributed all the advantages
more to the spirits than to the sulphur, but my experience has taught me
that the sulphur by itself is a very excellent medicine, It is much
employed among the poor of our city especially in the spirits, with great
effect; these persons trust their fevers to it entirely and are very generally
cured. I do not think that the addition of spirits is of any advantage

precipitate of Iron. Nitrate

- 4 or 5 grains several times a day

⑧ Dose about 2 grains -

in milk it is equally effectual. Much has lately been said by Dr. Monroe of²⁰⁵
the effects of the Blue Vitriol;^① this gentleman states that with it he has
cured some very obstinate cases in the British army while in Holland.
whether it is useful to the extent mentioned by Dr. Monroe I cannot
decide. It is most efficacious in old obstinate cases it is given with the
bark as in the following formula. Sulph: lupri. grs iv.

Ext Cinchon. -- grs xxij. mix and
divide into xvj pills, one to be taken every three or four hours. --
The Luprum ammoniacum^② has been suggested as this has proved
serviceable in Epilepsy and other diseases observing periodical periods,
it is probable that it will prove useful in fevers; for the same reason the Green
Vitriol may be also tried --

The Sulphate of Alumine is highly esteemed. Dr. Cullen has used it
he gives it with nutmeg or some other aromatic. It is often very offensive to
the stomach and cannot be employed, Dr. Lind considers it to be super-
ior to all except the bark, he prefers the nutmeg as recommended
by Dr. Cullen, I have very rarely employed it but even then I had but
little success with it. It appears to be useful in some fevers of a differ-
ent description as Chalmer found it very useful in the Intermittent &
Remittent of Carolina. Dr. Barwin thinks it useful when
connected with the bowels complaints. Last winter it was much em-
ployed in our Canadian Frontiers and was thought to be superior
to the bark and Arsenic; I think there must have been some deception,
I never found it useful --

The Sacch: Saturni has been much employed with great confidence
by many practitioners. Dr. Barton placed it above all others; this is too
strong a recommendation, from my trials no advantage resulted and
I would put it at the foot rather than at the head of our list. ③ --

Eating heartily just before a
 paroxysm is dangerous, gesticulations
 and exertions have a disposition to
 return on the seventh day, also
 the reappearance at this time, therefore
 it is better to give bark, on the
 day preceding as on the sixth, and
 continue it for three successive
 periods, it will be necessary
 to clothe warmly, avoid damp
 and never go out without eating
 and if the patient lives in a miasmatic
 country it will be necessary
 to continue the bark, or some
 other tonic, as Arsenic the phosphate
 of Iron or the carbonate of Magnesia
 when all these remedies do not succeed
 a sea voyage or a journey

Arsenic - This by practitioners has generally been considered equal to the bark.²⁰⁷ that it sometimes does good cannot be denied; but I am convinced that its powers are overrated; I have been often very often disappointed in my expectations and I think you will also if you rely much upon it whether it depends on the article or on the manner of prescribing it is doubtful in all the weak forms of fever arising from a typhus condition of the system from old age, from debaucheries, or other debilitating causes, it is certainly not to be used. This indeed might have been expected, as it does not like the bark possess any tonic powers, but it is soon succeeded by considerable Languor and uneasiness at the stomach. Its remote effects are considerable prostration of strength, pallid Countenance, swelled Legs and other marks of debility. But even when most judiciously employed it very generally fails. In children however it is often effective and being easy of administration is usually to be preferred. In administering it doubts have been entertained whether it can be administered during the different stages; I do not know that any precise rules are necessary, but it is liable to excite nausea during the cold stage. It acts very promptly so that if not successful in a few days it should be omitted, It has been observed lately that often when by itself it is inefficacious, it is successful with the bark. This I have not tried but suspect it is a very sound practice; It has also been said to prepare the system for the reception of the bark in obstinate cases, then it would be proper to subject the system to its use for a short time and then have recourse to the bark. This I have not attempted, but I think it is likely to prove suitable.

An extraordinary remedy has lately been recommended by the respectable Dr. Jackson of the English navy - much has been said among the populace of the efficacy of the Spiders Web in the cure of fevers. This gentleman is the first who has believed these reports and recommended the Spidersweb as decidedly efficacious, It is rolled up and made into pills with Gum Arab: ʒssij. being given in each pill. Dr. Jackson

For Lent Game in all its varieties, Cysters,
 Pentney &c. answers very well for
 Lent.

in a conversation with me states it to be a most agreeable anodyne. It excites²⁰⁹
a glow over the surface and composes the irritability of both mind and body -
It is useful just before the accession of the paroxysm and in all stages of the fit, the
doctor has employed it in numerous cases and always with decided advan-
tage. He considers it as an anodyne preferable to opium in all nervous cas-
es, upon the whole gentlemen, extraordinary as the thing may appear it
is deserving of trial; Dr. Jackson is one of the best authorities we can
have on any subject of this kind and such as should experiment on his reme-
dy. I have not been able to use it extensively, but I believe it is unquestionably
narcotic and that it possesses some valuable properties. A member of the
clap has written a thesis on it, by his account it is a very useful article
particularly in agues & fevers. — —

There is another remedy for Intermittent fevers, which I have not mentioned,
and that is Gelatine or animal mucilage. Ten or fifteen years ago
this was recommended by the French writers for this disease, they administered
it under the form of Common Glue; whether it possesses the virtues attributed to
it, I cannot determine. They have lately renewed their publication with a
more detailed statement of its virtues. It has been employed in this city un-
der the more agreeable form of Calves foot Jelly. A very respectable physi-
cian of this place Dr. Griffith in a very obstinate case in his own family confined
the patient exclusively to this jelly, allowing no other article of nourishment;
in 4 or 5 days the patient was well. Whether it will prove equally effec-
tual in other cases experience must determine. There are a few addi-
tional observations yet remaining on intermittents. There are some cases, which,
notwithstanding the judicious use of the above remedies remain intractable;
in all these it is fair to conclude, either that congestion exists in some of
the viscera, or that a habit is established which cannot be overthrown,
but by some powerful emproprion. In each of these we must resort to

① R. Ag: Font Zij, Sacch: alb: 3j Mft soluti addi Ether Sulph 3j

MERCURY. It is now one hundred years, since this has been introduced as a powerful remedy, and has always maintained its reputation.

That it may effect a decided change, it should be introduced gradually into the system and a gentle ptyalism be kept up for several weeks.

This is a revolutionary remedy by which such changes are induced, as to supplant and do away the disease. As a substitute for mercury Blisters have been resorted to, they should be applied to the Wrists & Ankles, and be kept running for a long time. They act in a manner very similar to mercury by producing counter-irritation. When all fail we should as a dernier resource, advise traveling, so that by the combined operation of various causes, as diet, change of climate, scene, company, mode of living &c. an entire revolution may be effected in the constitution. —

We are now to notice the remedies which fulfill the second indication, viz, those which are to be given previously to the expected paroxysm with a view of preventing its return. The common advice is that the patient should go to bed and take opium, to facilitate the diaphoretic operation of the opium warm drinks are to be administered. Ethelb is a warm, powerful, and diffusible stimulant, and said in some cases to be given with the same object. It is proper that the patient should not load his stomach immediately before the paroxysm, as this sometimes acts as an exciting cause to the paroxysm, and when it comes on excites nausea, and in many cases very troublesome vomiting. Indeed so true is it that the stomach should be empty, that cases are recorded in which Fasting alone has prevented the return of the disease; any strong impression on the stomach appears to answer the purpose. Other practitioners have resorted to Spirituous Liquors and Spices immediately before the accession, and no doubt with good effect in many instances. Whatever acts strongly on the body or mind will often prevent the return. Thus we often see

the impressions very effectual as anger, fear &c. In some more obstinate cases Emetics have been useful by the powerful effect they have on the stomach. Blisters also by being applied a few hours previously, so that their operation may be strongest at the time of the expected paroxysm, have often prevented the return of it. Intermittent fevers notwithstanding our utmost care are often very intractable; and degenerate into other diseases - It is the imperious duty of every practitioner to cure the disease as soon as possible and not wait for the evacuation of any malarious matter. There is none more disagreeable during its continuance, and none which degenerates into more serious Complaints; It changes sometimes into a fever of a continued form and assumes often a Typhus Character; In children it not unfrequently becomes the exciting cause of Hydrocephalus. Its more common effects are Congestions and suppurations of the abdominal viscera, followed by jaundice, dropsy &c. There is no opinion more erroneous than one which is promulgated, that Intermittents are not injurious to the system. Boerhaave advocated this with the idea that by various malarious humours were evacuated; the theory and the practice resulting from it are equally hurtful. Nevertheless, it is true that they have sometimes cured other diseases as Gout, Rheumatism, Chronic eruptions of the skin, and several spasmodic and nervous affections as Chorea, Epilepsy, &c. It is also said they have cured Mania and Melancholy; and in England it has lately been customary to send their consumptive patients to marshy Countries that they may have a good shaking with the fever and ague. This was the practice of the late Dr. Bond of this city. As the predisposition to this fever may exist for a long time in the system, the exciting causes in such cases should be avoided, as cold and damp exposures, fatigue, &c. &c. The remedies for the same reason should also be continued for sometime after a solution of the fever especially in cold and moist weather ---

On Remittent -

~~then~~ purging when carried too far may be known by some watery discharges, tympanitic abdomen, when watery discharges succeed bilious matter, emollient enemata to be used, cold applications to the body are used in three degrees of abatement, - these are applied only when the skin is hot and dry and where there is no local determination, by the sponge is the best, enemata of cold water is sometimes more useful than the external use, excitement being sufficiently reduced, the next remedies are diaphoretics, the best of which are the antimonial medicines are the best, and of these I prefer the preparations of Antimony is that be given in small doses, Euler says that it does not produce any good effect unless it vomits. Foroze to the contrary which is

- ⑧ "The usual appearances on dissection are, congestions of blood in the liver, inflammations in the alimentary tube, and a morbid state of the brain."

Remittent Fevers.

These are only ² modification of the Intermittent, and by Dr. Cullen are ranked under the same head. His reasons for this are, that they are produced by the same causes, are Epidemics of the same time and place, are cured by the same remedies, and often appear in the same person. All this is true, yet they ought not to be confounded, as they can easily be distinguished from each other and require some particular attentions in practice. --

A Remittent fever is that, whose attacks abates but do not go off, having in a word remissions but no intermissions. The remittent most commonly appears in low, marshy situations during the autumnal season when the weather is very variable. Like Intermittent it is preceded by Languor, heaviness, anxiety, listlessness, sighing, yawning, alternated fits of heat & cold succeed. When the fever is completely formed, there are pains in the head and back, great heat on the skin, thirst, difficulty of breathing, dejection of spirits, also a white rough tongue, a full, strong pulse, sallow skin, often a bilious hue. There is nausea and vomiting of bilious matter and commonly a sensation of heat in the Epigastrium. The fever abates and goes off by perspiration more or less profuse, it returns in a few hours as before, thus has exacerbations and remissions till it is cured, terminates fatally, or assumes some other form, as Intermittent or Continued.

Such are the ordinary characteristics of this fever, but they are modified by various circumstances of climate, constitution, &c. As there laid down it will appear to assume three characters, the Inflammatory, the Nervous, and the Malignant. In this country we have generally the inflammatory, and it is to this my remarks are confined. The principal indication here is to produce an intermission, or to convert the Remittent into an Intermittent; with this view it is usual to commence by taking

my view of its operation. Bellini &
 Deanne, advocate the same, its
 operates upon the capillaries as
 a sedative, the $\frac{1}{4}$ $\frac{1}{8}$ or $\frac{1}{10}$ of gr
 directed every 2, 4, or 6 hours in
 solution, at other times it is
 given with Cal. or nit. potash
 to meet the same indication.
 The combination of Oppe. and Opi
 has been used but they are not
 preferable, they are not followed
 by the same salutary effects
 but the Asthma cannot sooner
 be retained we substitute the
 Effort draws off the mucus & it
 at the same time sponging the
 surface with cold water or vinegar
 at this time blisters should be
 used unless some topical depletion
 is called for. They should not
 be so early applied, as they do harm.
 They operate by relieving the
 internal organs, and inducing
 a diaphoresis. Can bark be used here
 Cullen says that if the patient lies
 in a marshy district, you may
 give bark. & castor oil or ~~some~~
~~cases of blue~~

Blood from the arm, this is indicated by the strong, full pulse, by the flushed²¹¹ countenance, by the difficult respiration, by the general heat and dryness of the skin; the next step is to evacuate the stomach by an Emetic - here the Emet. Tart. is to be decidedly preferred to every other, as not only active in evacuating the stomach, but making a stronger impression on that organ than any other. Remember this and never use Spessacua, or other mild emetics, but the active Tart. Emet. To fulfill the same indication of evacuating the Alimentary Canal and at the same time powerfully to affect the system, the next thing is to employ the powerful Mucuiat purges.

Do not listen to ~~there~~ condemnation of those by Thomas and others, who recommend the mild Laxatives. It is most undeniable, that in this Country, that next to the Tart. Emet. the bowels should be evacuated by the mucuiat purges; they are beyond doubt the most efficacious. When this operation is over we use the milder purgatives particularly the Neutral Salts. The best is the Epsom Salt, or what has been very lately introduced the Cheltenham Salts, these operate in a less dose ʒj. being equal to ʒj. of the Epsom, and also more completely after these powerful evacuants Bleeding, Emetics and Purges, we should employ the milder Diaphoretics. I prefer the Antimonial preparations, the Saline mixture and the Spts. Mindereri already noticed, if they are slow in their operations, they may be assisted by the Vapour bath, the best way of using this is to pour Vinegar on heated bricks, which should then be wrapped in flannel; this will induce copious and general perspiration.

By these means in two or three days an intermission is usually procured, if not we may again recur to the Emetics, &c. These are called for by the vomiting of bilious matters. Also make an impression powerfully on the system by Blisters to the extremities. These operate by making a stronger impression on the surface, and thus intercepting that train of diseased actions, which keeps up the fever. During the Continuance of the fever

but in this city where the inflammation
 variety is most common it does not
 answer as it induces congestion
 and induces a typhoid tendency
 the remissions are also too
 short, bark should not be used
 except the patient cannot be
 exposed afterwards to the miasm
 but where the tongue is moist
 and the congestions are not
 severe, it may be used, Dr. Halcourt
 used the quinine with nitre in
 all its stages, and especially
 where the skin was hot, it may
 be tried, though Aconite may be used
 here as at serpentine Augustus.
 The preceding treatment shown
 failed, Mercury used to salivary
 may be used, but in some instances
 it fails, and often hastens a
 suppuration it should not be
 resorted to other remedies, fever
 giving way or about to give
 way the good effects are attributed
 to the Mercury, in the south
 it is used internally and externally
 often followed by bad consequences

several symptoms require attention, a very distressing sense of heat is of 219
ten present, this is best relieved by the application of Cold - as Cold water,
or Cold Vinegar. This not only removes heat, but quiets the agitations
of the patient. If there be a determination to the head as marked by a
suffused countenance, a wild eye and sometimes by delirium, it is ne-
cessary to remove the hair from the head, this by itself is often sufficient: if
it be not the cold applications, as Water & even Ice - But the most effica-
cious are Leeches, Cupping or some other local evacuation. A com-
mon symptom attending this disease is nausea & sometimes vomiting, this
arises from bile or from a morbid irritability of the stomach: to remove the bile
from the stomach they Tart. Emet. and Mercurial purges are to be employed.

In the second case, the treatment is very different, here we must endeavour
to quiet this irritability of the stomach to effect this, several remedies are
in use - The first is the Effervescent draught, to be taken during the effu-
rescence. One of the most effectual remedies to check vomiting from an ir-
ritable state of the stomach is New-milk warm as from the cow & table
spoonful being given every few minutes, the Mint Tea is another one, but
the most efficacious is the lime water & milk in equal proportions, ℥ss.
being taken every 15 or 20 minutes. The Seltzer water is very useful -
Per delirium or hot bath is important, the best remedy however is to ad-
minister an opium pill, that has been kept for some time, this will often be
retained when Laudanum will be rejected or even excites vomiting -
When we do not succeed in this way, anodyne injections are important,
but this is now superseded by suppository of opium, a pill being introdu-
ced into the rectum, this can easily be withdrawn if necessary and is
more agreeable to the patient than the injection. The Serpentaria
is very useful. Dr Rush in his practice found nothing so successful as
this article; he gives it in infusion ℥ss. per re nata. When the stomach

In the advanced stage, when
the vital forces give way, it
shall postpone its action until it
receives the proper food.

④ The Lulphale of Linnæus is in this state
strongly recommended by Dr. Holcombe of N.Y.
in place of the Bark not having the same
objections to it as the Bark.

has greatly lost its tone, the Tinct. of Cloves, has been found very useful 221
ʒj every hour or half hour. If these means do not succeed Sinapisms
are to be applied to the parts, and as a dernier resort fomentations to
the stomach, the best I have found to be the following: powder ʒij of
Cloves and quilt it between clothes, let it be wrung out of hot brandy,
and applied to the pit of the stomach. The application of a Blister to the
epigastrium or to the extremities, is attended with the most decided effects.

When by these means an intermission has been procured we must pour in the
Bark, and perhaps at first an Aromatic decoct. is preferable. If the
Remission is not complete and any fever remains we should employ
the Urapia, Lentany, Serpentaria, the Angustura, Eupat.
perfol. &c. these are very valuable in such cases. would not this be a
proper place for the Sulphur? It is a great mistake among many phre-
sicians to get at tonics immediately, they were upon the slightest remission to
throw in their bark; this is wrong it does no good and even aggravates the
disease when there is the slightest degree of fever, the bark is hurtful; but
when the system is reduced by the preceding evacuations, so that a com-
plete intermission is procured, the tonics may be used freely but not other-
wise. to this rule there is perhaps an exception, where there is a diuturni-
tude of typhus; here slight remissions are to be seized upon, but they
are often rejected and if obtained sometimes increase the force of the dis-
ease - where there is this new and typhus character a new disease aris-
es which we shall presently notice -

Continued Fevers

These run their course without any intermission, tho' they have some remission and subsequent exacerbations daily. It has been held by some few that this explanation is exceptionable; as a rule continued fever consists of but one paroxysm without any abatement. I am persuaded that no such fever exists and I am supported by the highest authorities; excepting an Ephemerica, every other fever is made and constituted by a succession of paroxysms. It may be remarked as a general rule that the exacerbation is in the morning and the remission at the close of the evening. Consulting analogical writers you will see various explanations of this fact and omitting the discussions respecting the proper division; I shall treat of them under the two general heads of Synocha and Typhus. of the first: Synocha has no real existence, all the fevers of this type which I have seen have been attended with local affections, making them phlegmasia - of the first, those of the most common form is the Bilious inflammatory of our climate which prevails very generally in the U. States, especially in the Southern States. It arises from marsh miasmata or from various other causes - Indeed the Intermittent, Remittent, and Bilious Continued fevers appear to be the same disease, varied only as to their type, arising from the same causes, occurring during the same season, frequently exchanging characters, cured by the same remedies, pursuing the same course - The Bilious Continued is indeed so very similar to the Bilious Remittent. That I refer you to what was then said for the nature and symptoms of the Bilious Continued fever. The question now obtrudes itself, whether it is in our power to arrest the progress of this fever or must we content ourselves with abating the more urgent symptoms? This has been much agitated - It is said by Eleghorn, Pringle,

Continued

8 And particularly by the interference of our art - by giving active medicines and using the lancet freely, we change in some measure the tendency of the disease for some to a crisis on these particular days -

even by Fordyce that when the fever is once completely formed it will run its course and that its symptoms can only be moderated. Fordyce even asserts that the continual or subsequent exposure to the exciting cause has no influence on the progress of the disease, to support this they appeal to other diseases as Smallpox, and Measles, where we cannot successfully attempt to stop their progress, but their examples are by no means pertinent: Smallpox & Measles are peculiar diseases and are governed by peculiar Laws. They are therefore not proper subjects for an analogical reasoning. Besides we observe that in ordinary fevers, their progress is very often checked by remedies, as by B. Section, Emetics, Purges, by Bark, by Blisters, by Salivation &c. Most assuredly we do and such cases are the trophies of our profession. But at the same time they are not easily accomplished, and hence we so often utter the injunction, to attack disease in its forming stages and not wait till it is fully confirmed. The theory is dangerous and ought to be confuted. It is dangerous as it dictates a false palliative practice till the disease gets beyond our resources. never the less there is some foundation for the celebrated doctrine of Critical Days. This theory presumes that continued fevers have a disposition to bring on a crisis or solution of the disease at different times. It originated with Hippocrates and has been confirmed by the ablest men that have adorned our profession. The critical days of Hippocrates were the 3^d, 5, 7, 9, 11, 14, 17, 20; or 21, ^{also 27-35 and 42.} according to others. Every practitioner who has watched the progress of fevers, must have remarked that they have on these days more or less of a disposition to go off; but they are not so distinctly marked as is noticed by Hippocrates. This indeed may have been the case in the more southern and Eastern Countries where Hippocrates lived; but is undeniably irregular by the variety of our climate, and by the causes to us unknown. The Climate of Greece is serene, and the inhabitants at the time of Hippocrates

④ "Great anxiety, loss of strength, intense heat, stupor, delirium, irregularity in the pulse, twitching in the fingers and hands, picking at the bed clothes, starting of the tendons, hiccups, involuntary evacuations by urine and stool, and such like symptoms, point out the certain approach of death."

"On the contrary, when the senses remain clear and distinct, the febrile heat abates, the skin is soft, and moist, the pulse becomes moderate and is regular, and the urine deposits flaky crystals, we may then expect a speedy and happy termination to the disease."

"The usual appearances which are to be observed on dissection of those who die of this fever, are an effusion within the cranium, and topical affections, perhaps, of some of the viscera."

lived in the simplest manner, hence disease preserved its natural character and was not disturbed by the wide deviations from nature or by the continually fluctuating weather, or by the influence of This is not a matter of mere speculation or invisibility, but has an important influence on our practice. The only solution that can be given is, Continued fevers assumes different types in different parts of their course, hence at first they observe the quotidian type when the critical day occurs every day, soon the tertian type is manifest when the critical day occurs every other day, & towards the close the quartan type, is manifest with the critical days occurring every fourth day. As these days therefore really exist, we should so manage our remedies as to facilitate the solution of the fever on one or other of these days. It has been already observed, the bilious fevers of our climate are inflammatory, the indication is manifest; to subdue the increased action of the heart and arteries. To effect this we have no remedy equal to V. SECTION, which acts promptly and effectually. It should however be used with judgment and discretion, & not be proscribed because the name of the disease is a bilious continued fever.

It varies greatly in different parts of our country and in different seasons of the year

In this city it is a disease very different in its nature and requiring different treatments from that which occurs in the Southern States. here V. S. is greatly demanded and may in all cases be safely resorted to when the pulse is strong and full, the breathing laborious, the skin very hot, determination to the head &c. next to bleeding evacuations from the Alimentary canal are highly important especially in bilious fevers.

I pursue my treatment by evacuating the Stomach with an EMETIC. The combination of Emet. Tart. & Specac. is preferable. The Specac. giving promptness to the operation and the Tart. Emetic increasing the power.

① But Emetics are not to be administered where there is phlogosis of the stomach, indicated by pain, on pressing over the Epigastri region, with a heating sensation in the stomach — Where phlogosis exists give the bland or mucilaginous drinks moderately acidified with vegetable acids as the lemon juice —

② Dr. Chapman recommends the following formulae as the best.

℞. Calomel — gr. x.

Gamboge — — grs. iij.

Elatin — — gr. ss.

Lalap & Rhubarb aa — gr. v.

oil cinnamon — gutt. ij. fb - pilul. xj. Take 2 every

hour —

I generally give of the Tart. Emet. gr.ij & of the Speac. gr. xx. now you may see 229
that I am fond of Emetics in fevers. In my opinion they are decidedly superior in
the commencement of fever to purgative medicines, and it is often necessary to exhibit
them every day and sometimes even twice a day. There is a fashion in medicine as
well as in every thing else: 40 years ago Emetics were always preferred; but being un-
pleasant in their operation they were superseded by Cathartics, but appear now to be
again reviving. The surgeons to the French & English Armies while in Egypt found
that purgatives were not effectual in overcoming the Intermittent of that Country,
but were forced to employ Emetics. In this city they have become more used than they
were a few years ago. As also by the English Physicians as may be seen by
some of the late publications of Jackson, Black, and others. When early ad-
ministered I have hardly ever found Emetics fail in checking the disease,
and in the advanced stages they relieve the headache, nausea, distending
heat, promoting a mild diarrhoea, and often affording a prompt solution
to the disease. I know of very few cases in which they are not to be used,
among these may be placed those cases in which there is a tendency to apople-
xy, where there is a rupture, or where the patient is pregnant. Next to Emetics
Purgatives are to be employed with the view of evacuating the bile and
feculent matter. In the early stages the Mercurial Combinations are to be resorted
to as Calomel, ^{with} Salap, Gamboge, Aloes, or Cant. & Rhubarb. It is a
favourite practice with some while the stomach and bowels are much loaded to
exhibit an Emetic and Purgative at the same time, thus inducing a cholera mor-
bus. of the utility of this plan there can be no doubt, and it should be occasionally
adopted in the bilious fevers of this place, and still more frequently in those of
the Southern States. Combinations of Calomel and Tart. Emet. or of Speac.
and Gamboge, are commonly employed to ^{the former of} which is sometimes added the
Gamboge. This last article is often given alone, in doses of gr. x. or xij. it operates
very actively - completely evacuating the whole of the Alimentary Canal of the

1. A morbid secretory action of the mucous membrane of the bowels, sometimes exists, which may be removed by Calomel, given in the dose of grj. repeated every hour or two until xv or xxgrs have accumulated in the præceæa & then give a dose of oil -

2. Cold applications, in the form of affusion, aspersio, or ablution are useful -

whole of chibilious contents. but to justify this plan the fever should be very violent. we should always choose a remission for the exhibition of our medicines, as they will be more likely to remain on the stomach, and act with greater certainty, than when exhibited during the paroxysm, at which time, they will be either rejected, or remain inactive for a long time. After a free evacuation by the mercurial purges, we may employ in the progress of the disease, the saline preparations, as they are less stimulants, and appear to have a more immediate effect on the blood-vessels. Any of the saline combinations will answer, but I will give you one which is usually preferred-

R^x. Sulph. of Soda or Sulph. of Magnes: — ʒi.

Tart. Emet. — — — grj.

Lemon juice — — ʒss.

Water — — — ʒiij. or w. misc. — ʒss.

The advantages of this are that while it gently operates on the bowels, it also promotes a pleasant diaphoresis. The dose is ʒss. repeated every hour or two hours as required. The Lemon juice may be omitted.

Enemata are sometimes necessary as a substitute for the purges, when there is great irritability in the stomach and bowels, and also, when the purgative is slow in its operation, in many fevers there is an obstinate Constipation which will not yield to the most powerful Cathartics, and in most of these ~~cathartics~~ cathartics are slow in their operation, in all such cases, Injections are often useful. the common injection is the following.

Take of Water — — pt. j.

Common Salt. — ʒss.

olive oil, Sarsd, or Castor oil — — ʒss. m. or where there is a flatulency, the Terebinth: enema may be employed. It is the following.

℞. Terebinth. — — ʒss. beat up with the white of an egg and added to a pint of water. — ②

⑤- Pulvis antimonialis - is oxide of Antimony with Phosphate of Lime.
 Dose the same as Dover Powder - 4, 5 or 10 grains -

⑥ Dose 3 to 5 grains -

Diaphoretics: are a very important class of remedies in this disease. 233

They are much used, but requires great discrimination, for the want of which, great injury has been done, and they have fallen into great neglect. Remember then in their administration the rules which I formerly laid down and always bear in mind that under bad management they are hurtful. V. Suction &c. being premised, they will be of great advantage, will always mitigate, and not unfrequently cure the disease - here the milder articles are to be preferred, and a general precept you should remember, that in all inflammatory diseases, sweating should always be excited by lenient measures. They consist, ⁱⁿ ~~me~~ ~~diuine~~ either taken into the stomach, or of external applications. Where they are given with a view to a crisis, the Antimonial preparations are to be employed; these were originally introduced by James and their employment was sanctioned by Cullen and Fordyce. Much dispute has existed as to the comparative value of the several preparations. James's powder was at one time almost entirely employed and was found so serviceable, that a preparation was made in imitation of it under the name of pulvis antimonialis. At the present time all unite in preferring the Tart. Emet. which, with this view is given in very small doses from gr $\frac{1}{4}$ to $\frac{1}{12}$. In France the Golden Sulphuret of Antimony is much employed in every view, however I consider it as inferior to the Tart. Emet. which by being tasteless; inodorous, and by the dose being minute, can easily be given. The question has been agitated, whether they are most efficacious when nausea is produced or not. Cullen considers that nausea is absolutely necessary for producing their full effect as Diaphoretics. Fordyce, than whom, there can be no higher authority; observes, that by vomiting their febrifuge power is impaired, and that they are always most effectual, when they induce the slightest gastric effect disturb. I have devoted a careful attention to this point, and judging from my own experience independent of all authority; I concur with Fordyce. It appears to me that nausea however excited,

is not a salutary effort; nor does it dispose the fever to a crisis, or to a favourable resolution. during its continuance, the action, the powers and the temperature of the body are lowered; when it ceases there is uniformly a reaction and a correspondent exacerbation of the disease - But if the sickened state of the stomach was effectual as maintained by Cullen, then the beneficial effects should be proportioned to it; and other more nauseating remedies should be preferred. but this is contradicted by experience, and by the united voice of most practitioners. Our medicine acts by its own specific powers; when it does not do this, it is either negative or more or less mischievous: to illustrate this would be easy, but it cannot be denied by any one who will examine the point attentively. (The antimonials do good independent of the effect, or the obvious effect on the stomach or skin: they do good by exciting a peculiar action, which, by being promptly kept up for some time, overcome the febrile action. you may imagine that when nausea, or vomiting were produced immediately, that they do not act as specifics.) Many indeed of the febrifuge medicines are the most agreeable substances we employ, as the effervescent draught, or neutral mixture, which removes nausea, vomiting, or sustains the tranquillity and tone of the stomach, while I contend that Antimony like mercury, ~~and~~ barks &c. &c. operate by a peculiar power, I still conceive that its efficacy will be proportioned to the quantity exhibited; provided that its genuine mode of action be exercised, which is incompatible with any nauseating effects. Curious as this is in speculation, it is more interesting when applied to practice - As we have at present indeed all the prejudices, which, have opposed the use of this class of remedies, which, are undoubtedly of the highest utility; nevertheless, none of these observations are applicable to Emetics, in the forming stage of this fever, where their efficacy is sufficiently established. To obtain their precise effects, is not very easy; the state of the stomach is so variable, that the circumstances of the dose and the time of repetition must differ -

As a general rule from $\frac{1}{10}$ to $\frac{1}{4}$ of a grain is sufficient every 2 or 3 hours, but ²³⁷ even this is more than can be retained, and we must recort to articles to moderate the irritation of this organ, Specac: with opium. When great irritability exists, the best medicine is the saline mixture, take \mathfrak{zj} . of lemon or lime juice, or strong vinegar & saturate it with the Carb: of potash, dilute it with \mathfrak{zj} . of water and sweeten it with loaf sugar, \mathfrak{zj} . of the Spts. nit. dulc. may sometimes be added - Dose \mathfrak{zss} . every ~~hour~~ 2 or 3 hours as may be necessary; this may be given not only during the force of the fever, but also during the remissions; the quantity also may be gradually increased; and if the stomach will bear it a little antimonial wine may be added instead of the Spts. nit. dulc. Therefore, after Diaphoretics, which are employed, a frequent one is the Pulv. Specac. Comp. this although useful in the Phlegmasia, and some of the fevers, I have found it early serviceable in the Bilious Continued fevers -

As to the External applications, I prefer those which are in form of Vapour, to those of a dry form. The former are easily applied by rolling hot bricks in wet clothes, which are applied to different parts of the body, which thus becomes enveloped in vapour, the vapour relaxes the surface of the body and promotes a proper perspiration. A dry heat stimulates the system and is succeeded by a slight diaphoresis, when the whole is often hurtful instead of being beneficial -

The advantages derived from Diaphoretic medicines in the cure of fevers, is very great - the blood is determined from the large viscera to the skin, and thus they obviate or prevent the congestion of these organs, they overcome the constriction of the extreme vessels, and from the discharge they produce, directly diminish arterial action - of all remedies for these diseases, these are the most popular, not only among the vulgar, but also among every class of society - It is however obvious that such powerful remedies should not be silly or indiscriminately used - discarding the old opinion, that fever is the method

employed by nature to evacuate certain morbid humors from the body, we must not resort to stimulating and heating medicines to promote sweating. Remember Diaphoretics are never to be employed till the system is reduced by direct evacuations as V. Section, Emetics, Cathartics &c. then they may be employed with singular advantage; but even here, we must excite diaphoresis by the Antimonials, and the milder articles, and never resort to forcible means. notwithstanding the advantages to be gained by them, some practitioners gave the preference to Refrigant medicines, under this head we may possibly include all the Neutral Salts. Nitre however is the one, which is most esteemed. how they operate is by no means ascertained. By late writers you will see that their operation is supposed to depend entirely on chemical principles, but this affords no satisfactory explanation - whatever may be the precise mode of their operation, they reduce the force of the arteries and produce gentle moisture on the skin by which they are adapted very well to febrile complaints. Nitre is given by itself but more frequently in combination with Cal: and Tart: Emet: Form of the Antim. powder.

℞. Nit. Potassæ. - ℥j.
Cal: - - - - - gr. xij.

Tart: Emet: - - gr. j. m. & divide into pulv: viij.

one to be given every hour or two hours. This preparation very rarely acts as a diaphoretic, but reduce arterial action. when it purges and this operation is not wanted, the Calomel may be reduced in quantity, or entirely omitted. The small quantity of Tart: Emet: here used excites in some instances nausea, and even vomiting; as we want neither of these effects from it, it is to be lessened or entirely excluded. To the same end, viz. to reduce arterial action, Cold water to the surface of the body is employed. of this I have more to say on another occasion; I will merely remark that it is a very important remedy, to be resorted to very frequently; there are three

③ Cold applications are improper where there is any chilliness.

241
modes of using it. 1st By dashing water on the patient. 2nd By immersion in a bath. 3^d By sponging the patient while in bed. This last is most agreeable and is least hazardous. Cold water is to be employed only when there is much action and when the skin is hot and dry, at this juncture it is eminently beneficial; it subdues the irritation of the blood vessels, and relieves the restlessness and anxiety of the patient. but if it is postponed till the system is reduced, and when the pulse is feeble, it will prove not only useless, but highly perilsous; increasing the exhaustion of the patient and aggravating all the symptoms. These are the plans; I can institute no comparison between them, as they are essentially distinct, each being applicable to different stages and circumstances of the disease. Before recurring to Diaphoretics you should do away the more active symptoms by D.S. &c. and then Refrigerents may come in with advantage. But remember the utility of Sweating.

Vesicating applications to the superior and inferior extremities are very important. By several of the ablest practitioners, they have however been condemned and rejected, of these, the most distinguished is Dr. Fordyce, the highest authority of the present day on the Subject of fevers. It was one of the singularities of his mind that he could not discover the slightest advantage in blisters, but on the contrary inducing a new irritation they exhausted the ^{patient} ~~disease~~. It is not difficult to reconcile these opposite statements, nothing can be more different than the effects of a blister applied during the early or during the advanced stage of the disease. They never fail to do harm while there is much excitement, while they are no less useful when applied during the ~~advanced~~ reduced state of the system. They quiet the irritability of the pulse, equalize the excitement, and destroy the broken, irregular action of disease, & induce the regularity of health. "There is a time for all things": at this time of the disease there is generally great thirst and dryness of the mouth and fauces. The question is then proposed, whether under these circumstances Drinks are to be given or not. By one set of ancient physicians drink was wholly

of many of the most important and interesting
 facts of the history of the human mind, and
 of the progress of the human race, and
 of the influence of the human mind on the
 progress of the human race, and of the
 influence of the human race on the progress
 of the human mind, and of the influence
 of the human mind on the progress of the
 human race, and of the influence of the
 human race on the progress of the human
 mind, and of the influence of the human
 mind on the progress of the human race,

243
forbidden; by another sett, the stomach was deluged with it. The truth here as
in most other cases will be found at a medium, between the two extremes. The pains
and restlessness produced by thirst must aggravate the fever. Therefore some drink should
be allowed; but the stomach should not be deluged with it, according to the will of
the patient, as retching and vomiting would be the consequence. It is therefore a
rule that drink is to be given, but in small quantities at a time, and should con-
sist of water generally a little acidulated, as Lemonade, Vinegar & water, Toast
and water, Apple water, Tamarind water, &c.; Even common water need not be
refused. It is a precept worthy of recollection, that drinks when given in small quantities
and moderately warm, will quench thirst much more effectually, than
large draughts of Cold Liquors. These drinks are sufficiently nutritious during
the continuation of the fever, but the appetite demands more substantial
food, and the patient becomes clamorous and impatient. This is an unfavour-
able indication and he is not to be gratified; many evils and even deaths have
resulted from an improper indulgence of this propensity. I have on a former oc-
casion pointed out the causes which influence the pulse, the most operative of
which, is Light, which, should be carefully excluded. There should also be
no bustle or conversation in the patient's room, as these would irritate and disturb
him. You should also remember, that while you are employing depleting
remedies, the nourishment should correspond; one should not act against
the other, but the most plain and mild articles should be employed.

After all these medicines have been tried and yet without effect, we have still
a powerful resource viz. MERCURY - when the system can be brought under
its influence, mercury will almost invariably arrest the fever. But in most
instances, long before salivation can be induced the disease terminates. In
all excited states of the system, Salivation is very difficult to induce; we
must first reduce the system by depleting remedies, as already advised, and by
this, we very often succeed without the use of mercury. Nevertheless, there are

③ Dr. Chapman here observed that no man feels like a gentleman with a dirty shirt. He further says, many a one is much more of a gentleman after a good lathering -

cases which require this remedy, as those which resist the ordinary depleting 245
remedies and go on for two or three weeks. These usually depend on obstruction
in some of the viscera and can only be relieved by inducing a ptyalism; and here
there will be no difficulty in bringing about this end. The system is now reduced
and the mercury will be effectual in a few days -

Before I close this account of continued inflammatory fever, I must detail to
you some directions to be remembered during the convalescence. All fevers leave
the patient with an accumulated state of excitability, so that from slight causes, a
lapse may be induced; which, is always more intenable than the primary attack.

First. The patient should be removed into another room, or all the apparatus of sick-
ness be carefully put away, as they by association, serve to depress the mind of the pa-
tient, he should also be shaved and have his clothes changed. ②

Second. Diet should be carefully attended to, and accommodated to the
excitability, at first he may be allowed Farinaceous articles, as Tapioca,
Sago, Rice &c. next an egg, raw oysters and soon a boiled chicken. But it
is of the utmost importance, that whatever be taken, small quantities should
be given at a time -- Drinks. here water is the best article; if something
more should be necessary either from the condition or solicitation of the patient,
Porter & the Malt Liquors, generally may be given; they are more agreeable
less injurious than wine or spirits however diluted.

Third. He should gradually return to the performance of his accustomed
duties, but there should be no exercise of the intellectual powers, no steady at-
tention to himself or business, there should be little conversation and not
much company.

Fourth. Be not precipitate in taking exercise, especially out of doors,
the patient is generally eager to get out, and his friends also encourage him,
as they think he will gain his strength more rapidly; but recollect how
liable he is to take cold; and from his excitable state, the stimulus of riding

⑤ Hoffmann's anodyne - Tela tranie. Bleeding - Sprung in with water.
 The following prescription Dr. Chapman thinks very excellent in procuring sleep -
 R^x. Laud: - ℥j.
 Tartari acid - gr. x.
 Water ———— ℥iv m. Dose a table Spoonful.

⑥ Laudanum does not prevent the operation of Rhubarb, so that they may be given together if necessary -

is very apt to re-excite the fever, when he does ride let him be warmly clothed, 247
and be peremptory in your commands, that the ride be not long, or that the
patient be fatigued - now and then there are certain particular symptoms,
demanding attention; generally the patient is very weak; but diet well
adapted to his power of digestion, will usually be sufficient; sometimes the
debility continues too long & the appetite is feeble; then we must resort to ton-
ics. The Sinct: Cinchon: especially with the Sinct: Gentian: is hig-
hly beneficial, and is what I usually employ, many others may be selec-
ted to suit the taste or inclination of the patient - all the vegetable bit-
ters, Columba, Quassia, Chamomile, Gentian, &c. all of which,
are given in watery infusions - The Elix: Vitriol is very excellent, es-
pecially in restoration of the appetite, it should be given in minute doses
and often - Morbid vigilance frequently retards the recovery, it can
be obviated by opiates, particularly by what is vulgarly called the
Black drops, which is a preparation of opium with an acid, it is three
times the strength of Laudanum and never induces ~~nausea~~, which
Laudanum often does - opiates failing the Sinct: of Hops and
what often succeeds the Camphor Sulph; quits intractability and indu-
ces sleep - Sometimes from the state of the stomach the food does not suffi-
ciently become digested and induces diarrhoea, and often Constipation
is present - As diarrhoea will hereafter be a subject of distinct lecture,
I will now merely suggest the use of the Ustacous preparations -
Rhubarb in small doses may be given to overcome constipation, it
acts as a tonic and does not purge when given by itself - For however
beneficial Cathartics may be during the continuance of the fever, they
are very injurious, during the Convalescence - here one copious evac-
uation will induce great exhaustion and often bring back the fever.
This I have frequently seen; With this state, some other affections are often

associated which will be better described hereafter. This fever sometimes ²⁴⁹ terminates in Typhus, or recurs to a chronic state, as the first does, not differ from the idiopathic fever, I will not now mention it. The second or the Chronic form of fever is sometimes called the Sebricula, from the diminutive or indistinct symptoms. It is vulgarly called inward fever.

There is a small, corded, hard pulse, much heat on the skin, a bilious complexion, tension of the forehead, headache, and pains in the side, tumour of the abdomen, swelling of the feet and urine, It assumes the Intermittent or Remittent type, the cause of it is obvious, being induced or kept up by Congestion of the Large viscera - here a slight salivation will effect a cure, or what will answer very well a course of the nitric acid, ℥j. being taken daily for 8 or 10 days - give 5 or 10 grs. of the Blue pill every night, purging it off next morning with magnesia & Rhubarb. This is an excellent treatment for dyspepsia when it depends on depravity of the stomach. There is not unfrequently so much pain and fever, that the repeated application of small blesters to the extremities becomes necessary - when there is much pain in the side they may be placed there. They operate by interrupting the train of morbid actions and effectually overcoming the depraved habit of that system.

It is common to use tonics in this state of fever especially the Bark, but this is blocking up instead of liberating the disease. After the use of mercury, tonics may be usefully employed and of these the bark is the best, when they fail we may recur with advantage to Fowler's solution.

Typhus Fever. from the Greek Typhos or Typhon

I shall now consider typhus fever, this name is derived from the Greek and signifies stupor, heaviness, which is well associated with the character of this disease. By nosologic writers it is considered as of two kinds, to which they give the name of Mitior & Gravior. This division however I cannot adopt, as one is merely an aggravation of the other. The only difference between Typhus mitior and Typhus gravior is, that the first commences with a remarkable mildness in all its symptoms, and is present several weeks before it assumes a definite form. For several days Languor and listlessness are its only symptoms, there is no chill, fever, nor any uneasiness except debility and a disinclination to move, together with some loss of appetite. It thus becomes more developed, assuming according to circumstances a more or less violent form -

Typhus Gravior is more vehement in its onset, and more violent in its progress, at first there is great prostration of both mind and body, but even here there is much soreness of the muscles, pains in the back, head, sides and extremities; there are attenuate chills and flushings, which are soon followed by intense fever, with a great heat of the skin, determination to the head, as shown by the pulsation of the Carotid, flushed eyes, tendency to delirium, the tongue is now dry and hard, it soon becomes dark, chapped and incrustated - so also are the teeth and gums covered by the same incrustations; at the commencement the pulse is quick, corded, and active, the respiration is laborious, with a deep sighing, breath hot and offensive, the bowels are uniformly costive, there is pain oppression and heat in the Epigastrium with a vomiting of fœul matter, and an unquenchable thirst - as it advances these symptoms are aggravated, there is ^{now} ~~now~~ delirium & coma. The delirium is of a low muttering kind.

For unformed symptoms see anæmia & phlogia
 Sometimes involuntary, and the urinary discharge foetid

Typhus fever occurring from contagion may be distinguished from that arising from miasmata by the following circumstances.

The latter occurs in warm weather, & is more inflammatory.

The former occurs in cold weather and in crowded & ill ventilated places, &c.

It is often accompanied by a profuse discharge of sweat.

⑥ Not extending more than 8 or 10 feet.

The pulse becomes small, tremulous and excessively quick: the surface is ²⁵³ in some parts dry, in others cold and damp, the nervous symptoms are now augmented especially the tremors, which are now termed, subsultus tendinum; the bowels often give way and there are large discharges of a dark, feculent matter. In the malignant form we have discharges of a dark, gleomy blood from the nose, gums and fauces. Petechia and Vibices appear on the surface, the pulse sinks, the skin is cold and damp, hicough and death soon follows.

When the disease assumes a more favourable form, the surface is soft and moist, tongue clean, pulse slower and stronger, the stupor or delirium subsides, and we not unfrequently have glandular swellings or scabby eruptions which last is very favourable. This fever is not incident to this city, or indeed to any part of the United States. It occurs generally in Hospitals, Gaols, Camps, among the poor and in various places of wretchedness and soot, and therefore can find no extensive source of generation or means of diffusion in this Country.

It has never occurred to any extent in this city, at least since I have practised here; and what I have to say will be chiefly the result of my observations on this fever in the hospitals of Great Britain.

As to the CAUSES of Typhus fever, there have been considerable disputes.

By some, especially by Hargrath it is maintained, that it originates solely in contagion - that it does in a great majority of cases, there can be no doubt, as is very evident in its prevalence in the crowded apartments of the Gaols and hospitals; In such cases the small pox is hardly more contagious.

But it appears that the sphere of contagion is very much limited; not extending to adjoining apartments or even to those in the same room, if it be well ventilated. But it may be propagated by Fomites; of this there are many well authenticated facts, and it is curious that the clothing of an individual will carry the disease to another, while he himself is unaffected. This was unmarkably the case of the Count of Black Assizes when several of the judges and

254 "Typhus mitior. The usual appearances on dissection are, a softness and flaccidity in the solids; a dissolved state of the fluids, particularly of the blood; collection of purious matter in the different cavities; turgescence and inflammation of the thoracic and abdominal viscera; and in the interior parts of the brain, increased vascularity and collections of a serous fluid. In some cases, however, accompanied by great intellectual derangement from the beginning, the minutest dissection after death has ^{not} been able to detect the least vestige of cerebral disease."

"Typhus Gravior. An abatement of febrile heat and thirst, the tongue becoming moist and clean, a gentle moisture diffused equally over the whole surface of the body, loose stools, turbid urine, the pulse being stronger, but less frequent, a free secretion of saliva, tumour and suppuration of the parotid, axillary, or inguinal glands, a scabby eruption about the mouth, and the delirium and stupor abating, or going off, may be regarded in a favourable light. On the contrary, great muscular debility, very laborious respiration, difficulty of deglutition, stupidity, and listlessness of the eyes, perpetual writhing of the body, petechia of a livid color, with dark, offensive, and involuntary discharges by urine and stool, fetid and cadaverous sweats, hemorrhages, subsaltus tendinum, and hiccups, denotes the almost certain dissolution of the patient."

"The appearances usually perceived, on dissections are inflammations of the brain and viscera, but more particularly of the stomach and intestines, which are now and then found in a gangrenous state. In the muscular fibres there seems likewise a strong tendency to gangrene."

Dissections - In violent cases, the solids are soft & flabby. Blood dark & gummy - sanious or bloody effusions in the great cavities, brain, &c. stomach, duodenum, &c. exhibit a weak species of inflammation - also brain - in some cases inflammation of the brain is accompanied by a collection of morbid matter.

jurymen and by-standers were infected by the criminal; many such facts ²⁵⁵
have occurred at New-gate &c. &c. But though undoubtedly contagious
it is only in crowded ill ventilated apartments. In our jail the disease
has lately appeared in some of the apartments, which were unusually crow-
ded; the patients were removed to a large building, and the fever ceased to
spread. As relates to the precise period in which it appears after exposure, there
is great doubt; generally however in 10 days, but it has after the expiration of
40 or 50 and 60 days, as there is no doubt, as it has been fully established
by Hays with and many others. I have seen it during the last summer
appear among the German Redemptioners in 5 or 6 weeks after they had
left the vessels in which the fever was prevalent; this has occurred in upwards
of a dozen cases; but after considering all this, still it must be confessed, that
it arises from a variety of other causes, but admitting this it will not fol-
low that it will occur in all circumstances, it rarely occurs in apart-
ments well ventilated and therefore seldom in summer or in warm
countries, here the windows are generally thrown open and thus the in-
fectious matter is so much dissipated that it cannot act on the system.

Typhus fever arises from a great variety of causes, from marsh miasmata,
Cold, Heat, long fasting, watching, excessive evacuations, anxiety,
and indeed from whatever enervates and depresses the system.

Treatment. It is customary to commence with an Emetic; as
to the particular one, there is not much choice. Specac. a Antimony
when timely administered, often checks the progress of the disease, whatever
be the cause of this disease, it appears to act chiefly on the stomach, and
by evacuating the matter & changing the mode of action of this organ, an
Emetic will often prove effectual; if not absolutely successful, it allays
the most troublesome symptoms, and prepares the system for the action of other
remedies. It ^{cannot} be too strongly impressed on the mind, that Emetics are never to be

① Sometimes it may be resorted to when gastric affections demand it.
 ② Blood-letting Dr. Chapman says is to follow Emetics and it ^{or} be copious - make a direct impression on the system, and we will find it relieved of burden which was pressing upon it. Previous to this it is oppressed like an overloaded cart, which can only be relieved by removing part of the load -

can not be protracted in all cases - 30s. but profuse perspiration

Treatment

① as much as is consistent to restoring healthy circulation

② introduced by Cullen -

257
given in the advanced stages, as they would heighten all the symptoms. At one time it was customary to follow up the Emetic by the Antimonial preparations, to excite nausea, Diaphoresis &c. Followed by the diffusible stimulants. At present however another mode is adopted, after evacuating we thus free the intestines from their contents by purgative medicines. Hamilton is the author of this practice, it is more than 20 years he tells us that having experienced many disappointments in the use of Antimonials, he attempted the use of Purgatives and being pleased with the trial he continued the use of them. He attributes their efficacy very much to their acting on so extensive a surface, as the Alimentary Canal. To render them beneficial, they should be active & continued for a long time; he prefers Calomel either by itself, or with some of its usual combinations, as Salap or Rhubarb, and continues them every day till the whole of the indurated fecal matter is discharged. he by no means rejects the use of other remedies at the same time. of the propriety of this mode there can be but little doubt. It is adopted by all the English practitioners, and I have seen it employed with decided advantage.

In Typhus there are great accumulations of feces in the Alimentary Canal, especially in the lower portion of the tube, this is proved by the increased tongue, the foul faeces, by a strong sensation of heat and gastric distress, by the nature of the discharge which is dark coloured and very offensive, and therefore the purging is to be continued till this changes its character or appearance. By this practice debility is not brought on, but the patients strength is increased, as the debilitating cause is removed.

As co-operating with the above remedies, Cold applications are to be employed, this is not a new practice. It was recommended by Celsus but was overlooked till about a century ago it was recommended by a writer who was so much pleased with it, that he call it the Febrifugum Magnum; about 20 years ago it was noticed by some of the West-India

If called to a patient with a cold, pale surface, and symptoms of congestion, you should ^{then} ~~use~~ ^{begin} with stimulating friction, ^{the system will then react,} and restore relieve the congestion, ^{then} bleed him.

0 Root above the material standard

0 Shunging is perhaps the best

practitioners, but it was not much used, before the celebrated work of Dr. Currie was published, since which time, it has been extensively employed.

In this city all that has been done, is, to sponge the body in fevers when violent and the skin very hot, and apply ice to the temples in Phrenitis.

This is not in all probability owing to the distrust of the remedy, but perhaps to our attachment to the Linctus, which produces very analogous effects. But I think it has been too much neglected as regards our autumnal fevers, nothing can be more useful than cold water; Dr. Currie employed it chiefly in the early stages of Typhus when the exacerbation was at its height and accompanied with a flushing of the face, thirst, anxiety and restlessness; when used in the advanced stage, Hot toddy, Brandy or cordial was to be administered previously, so that the system might be able to react. It is now or to be employed when there is any chilliness present, any paleness or the slightest perspiration. Different views are entertained of its action by Dr. Jackson; he denied that its beneficial effects arose merely from the abstraction of heat, but was effected by a tonic or stimulating impression on the system; but of this there must be a previous susceptibility for the remedy, procured if necessary by the warm bath, by frictions, and even by some mild stimulant medicines. After this he totally disregards the stage of the fever, or any particular circumstances. Whether he is correct or not, I cannot determine; but his indication requires too much nice discrimination to be recommended to your notice and should not be acted on till we have it more particularly described.

The Modes of applying are several. 1st By Dashing water of the temperature of 40° or 50° from a bucket on the patient. 2nd By Shower bath.

3rd By Sponging the body. Dr. Currie who has had perhaps, more experience than any other, as also, Dr. Gregory of Edinburgh, prefer the first method or that of dashing 3 or 4 gallons of water at once on the patient. I have seen this practice tried while I was at Edinburgh very extensively. 1000, or 1200

of the men in Admiral Duncan's fleet were brought to the hospital with this fever, Dr. Gregory ordered the cold applications twice a day, 3 or 4 gallons of cold water to ^{be} poured on them. In many cases its effects were very satisfactory: It relieved the pain in the head, the delirium, anxiety, restlessness, almost immediately operating as a talisman; in other cases however, where the system did not react, the consequences were of the most serious kind, and in some cases death was the result. I conclude that in a majority of cases, it proved useful, but that in some cases it was a very perilous, and at any rate a useless remedy. This method of dashing water on the patient, I consider to be too violent to be recommended; and prefer the washing & sponging of the body with water of a temperature of 40° , which will diminish the heat of the body and moderate increased arterial action. But you will find in Cullen and other Authors, no such doubts expressed, they boldly advise the use of the cold affusions, I thought however it would be proper to state to you the result of my observations on this subject, leaving you to determine its efficacy from your own experience.

When this fever is not arrested by the remedies already noticed, it is now customary to resort to Diaphoretics. this practice was formerly more confided in than it is at present and sweating was early recommended and vigorously prosecuted. It was imagined by the Humoral Pathologists that all contagious fevers arose from and were kept up by the matter of contagion, floating through the system. It was therefore necessary in their minds, that this should by some means, be disseminated from the body. Diaphoresis was of course employed very early and vigorously. This is not the only instance in which a false theory led to a pernicious practice, there is however a point in which this practice is beneficial, this point is, after the system has been acted on by Emetics, Purgers, and Cold applications. Here however diaphoretics have nothing peculiar

of the man in a clinical sense one that now belongs to the history of
 the fever, Dr. Pavy remarks the fact of its action being only 3 or 4 grains
 of chloroform to produce it. In many cases it is not necessary to
 relieve the pain on the head, the delirium, vomiting, and in
 markedly operating as a soporific, as the case of a woman who
 died not long ago, the Coma was one of the most severe kind, and
 even death was the result. I have also seen it in a case of
 fever, but that in some cases it was a very dangerous remedy
 a simple remedy. This mixture of chloroform water in the present, I am
 or to be too violent to be recommended; and prefer the following
 up of the body with water of a temperature of 40°. which will diminish
 in the heat of the body and moderate its morbid action. But
 you will find in Galien and other writers, that death is
 likely to be the result of its use, and I might mention that
 be proper to state to you the result of my observations on this subject, but
 and you to determine its efficacy from your own experience.

Antimonial may be used with the
 Mucosari or Soline Mixture

and is very much indicated. It was recommended by the late Dr. Pavy
 points that all Coma cases are four and one half up to the
 of entraping for acting through the system. It was therefore
 this mixture, that the blood is in a state of high tension
 body. Such a case of course requires very early and vigorous
 has a not the only means in which a patient may be relieved
 practice, there is however a great deal in which the practice is
 the point is after the system has been acted on by Pavy's
 like application to our knowledge of the nature of the disease.

263
in their action, they act on general principles & the only circumstance requiring attention is the proper state of the system, they are therefore to be of the milder & more active kind as may be necessary. In general however, in the early stage there is some excitement, hence the mild diaphoretics are preferred. The most used is the saline draught already frequently noticed. The saline medicine is exceedingly appropriate, is grateful to the stomach, allays thirst and heat, relaxes the surface and induces perspiration: the same effect is produced by the Spt. Nit. Eth. But it may be given freely and at ~~short~~ ^{short} intervals, the discredit into which this medicine has fallen is owing to its being given in too small and inadequate doses. To obtain its salutary effects ʒj. or more must be given every hour or two alone or combined; it is usually combined with Laud.; and Ant. wine. Even more effectual is the Spt. Mindereri, but it is less agreeable than the former and is often rejected when the other will be taken. either however should be assisted by the vapour bath and warm beverages. It would appear that the Antimonial medicines were peculiarly adapted to this fever; but they have been condemned by so many high and respectable authorities, that I have been very sceptical as to their virtues in this respect. why they should not be as useful here as in other fevers it is impossible to determine. Although there is no obvious cause why any medicine should be hurtful, yet if by the highest authorities it is condemned we are found to abide by their decision and yield to their own theoretical speculations. By all the modern writers the use of Antimony in Typhus fever is condemned, as prostrating the system and increasing the debility already too great and showing no tendency to hasten the formation of a crisis. Such are the principle remedies in the first stage of Typhus fever, and it will be perceived that they are all of the depleting kind. notwithstanding what has been asserted to the contrary it is demonstrable that this fever is inflammatory at first, the hard, corded pulse, the heat on the surface, the suffused countenance,

- ③ It is now sanctioned by - Johnson - Clutterbuck, Percival, Jackson - Armstrong, and nearly all the late authorities.

Read some passages from Clutterbuck - "In the first stage V. S. is indispensable - the pulse is often weak, & yet V. S. is necessary" Next Percival - "Blood-letting is the most powerful remedy in Typhus fever"

Dr. R. Jackson - "Bleed largely - 3 pounds taken"

O'Halloran recommends the extraction of 5 pounds of blood Armstrong - largely in the commencement - -

Wells of Edinburgh - V. S. lessens the mortality of Typhus fever beyond a doubt -

the wild, madd'd eye, and delirium, ^{or Phrenitis} will all warrant this opinion.

265

Dissections also shew an inflammatory state of the viscera, particularly the brain, ^{and its appendages.} the blood when drawn is gray and sometimes But whether this be true or not, there can be no doubt of the rectitude of the practice. I have had during my residence in Europe and during the last summer a fair opportunity of comparing this with the stimulant plan, and am convinced of the superiority of the former. It is sometimes even necessary to use the lancet, which I have repeatedly done with great utility, but it requires great discrimination and is more suited to private than to public practice, in Hospitals, jails &c. It is worthy of remark there has been an essential alteration during the last few years in the treatment of this disease. Till within the last 30 or 40 years almost all practitioners were in favour of V. Section to a great extent. Sydenham began this practice and was followed by Huxham & many others. It is curious to trace the influence of the medical opinions - all know the revolution excited by Sydenham, who, considered that fever depended in every case more or less on inflammatory action and hence deduced his practice, after a while this was firmly established and regularly transmitted till the time of Cullen. This great teacher confined his attention to the nerves and from this limited view of the system made his pathology, hence he appointed an opposite mode of treatment; this was confirmed by Brown, whose opinions were so attractive that they very universally prevailed, he mentioned from whatever cause the disease arose, the consequence was that the vital energies were crippled, and hence, all its actions and functions were imperfectly performed, but the system was not exhausted, only oppressed, when the Causes were violent it was depressed beyond the powers of reaction, if they are feeble the system reacts, in the first place we have a tumultuous pulse, cold extremities, and a slow wandering delirium, then the elasticity of the body is so destroyed that it will not

I have now said that typhus fever is inflamg. in the commencement, terminating in a typhoid condition of the system —

①- When there is wild delirium, small, quick, corded pulse, restlessness, dry skin —

When we are called in the advanced stages of typhus, we must resort cautiously to stimulants — but ascertain if possible whether there is a vestige of congestion, &c remaining.

③ Boil milk and add about $\frac{1}{3}$ part of wine.

react we must therefore resort to the Cordial Stimulants. But if we find a hard, 267
corded pulse, great heat on the skin, suffused countenance, beating of the car-
otids, &c., we may infer that there is an inflammatory diathesis, and resort directly
to the depleting remedies; the Lancet, purges, &c. &c. For this you have the authority
of Sydenham, Huxham and of all medical writers till the time of Cullen? At
this period of the disease, there is an abatement of the susceptibility or excitement
of the system, or a change in our treatment is therefore necessary, some stimulant
medicines are here demanded and in this city we prefer the Vol. Alk. or the
Carb. Ammon. To preserve the excitement of the system it should be given
in small doses. The following formula is a very excellent one

R. Carb. ammon. - - ℥j.

Gum arab. - - - ℥ij.

Sacch. Alb. - - - ℥j.

Ag. Par. - - - ℥vj. - m. Dose ℥ss. every hour

or two hours. To promote its operation we are in the habit of employing the
Wine whey. There exists between certain medicines an affinity in their oper-
ations which is very valuable, and which should always in practice be att-
ended to: Between none is this affinity stronger, than between the vol. alk.
and Wine whey.³ This last is prepared by taking two parts of milk &
one of wine, if it is too strong it should be diluted with warm water; to
render it agreeable it should be sweetened with Loaf sugar - As the
vol. alk. is very evanescent in its operation, it should be administered at
short intervals, every two hours at furthest and often every hour and every
half hour. Under similar circumstances as we use the vol. alk. Camphor
is a very valuable remedy, which, indeed is preferred by some to the vol. alk.,
They are both eminently beneficial, but judging from my own experience,
I should prefer the vol. alk.: In protracted fevers however, I am very much
in the habit of alternating these remedies, and I think with much advantage.

Camphor may be dissolved in Seltzer water.

It excites perspiration, quiets nervous irritation, remove delirium, and abates the force of the disease —

Stimulating diaphoretics.

Camphor in combination with opium & Speeaca
bowen powder —

vapour bath — By pouring vinegar or Spts. on heated bricks.
 By a long tube introduced under the bed clothes, &c. some-
 times too powerful. — Then we may sponge the body with
 Spirits and water.

The relief afforded is not in proportion to the quantity of
 perspiration induced —

The only use of the vapour bath, warm, &c. is to prepare the surface
 for the specific operation of diaphoretics —

① When you find a patient difficult to sweat — Rub him
 freely & diaphoresis will be induced —

Where a slight phlogosis prevails in the mucous tissue give
 blanch, or muligancy drunk moderately acidified with
 Lemon juice

when the system has lost its susceptibility to impression from one the other will act ²⁶⁹
very effectually. Camphor is administered in several ways, in the form of bolus,
this however is very difficult to swallow and is very liable to create nausea.
a neat preparation is the camphorated julep of the Dispensatories, by them
however it is directed in too small quantities. I prefer the following.

R^x. Camphor --- ℥i.
Myrrh --- ℥ss.
Sacch. Alb. --- ℥ij.
aq. --- ℥vj. Mice.

On the whole the neatest preparation is the Camphor dissolved & suspended
in milk; it lies better on the stomach than any other medicine and is pleasant
for the patient. I have lately learnt that it may be dissolved in the Seltzer
water, which will certainly be the neatest preparation of it. At this juncture of
the disease I have found blisters very serviceable. Blisters have
however been condemned by a great many respectable authorities among
whom are Fordyce, Pringle, and the late Dr. Moore; but on the contrary
they have been praised by the late celebrated Cullen and very greatly
by Dr. Lind, who has had a very extensive experience in this disease; Besides
these there are many other authorities in their favour. In deed if there is any
medicab point clearly made out, it is the unequivocal advantage of Blis-
ters in all sinking states of the system; they may be applied to either of the ex-
tremities. By some merely to excite the system, Sinapisms are consid-
ered as adequate but this is not correct; Blisters are more permanent &
powerful in their operation, and are every way more favourable; some have
even objected to them as debilitating the system, by the evacuation they
produce; but this is certainly fallacious, the slight discharge from a blis-
ter can have no effect. I have never seen them debilitate the system in
the whole course of my practice; but whatever difference may exist on this

point, no one can doubt of their efficacy in relieving delirium when ap²⁷¹
plied directly to the head to obtain their full effect they should embrace the
whole head and be continued for 24 hours, but even here they have been con-
demned - Dr. Darwin has declared them to be injurious, as has also Thom-
as, but these are two insulated authorities, every other writer gives them
their cordial approbation, and in this city all acknowledge their indis-
putable utility. But what shall I say on the use of Opium in Typhus
fever? There is no point which has been more controverted. The celebrated
Brown placed opium at the head of Stimulants and considered it as the
best remedy in all Low stages of fever. In this he ~~was~~ followed by all his disciples
and the practice became so fashionable that no medicines but wine and opium
were employed. It was not till the publication of Fordyce, that this opinion
was in any way controverted. This Gentleman declares the result of his ex-
perience to be, that opium however employed or in whatever doses exhibited, to
be productive of no advantage whatever, but in reality to produce mischief.
His opinion has very much brought opium into disrepute, but I think that when
judiciously employed it fulfills some indications not to be accomplished
by any other medicines. In administering it you should always keep in mi-
nds how it is modified by the magnitude of the dose, so that very opposite ef-
fects may be obtained. In Large doses the system immediately sinks, in
small doses exhibited at short intervals all the effects of the most acknowl-
edged Stimulants are produced. I have already noticed on a preceding
occasion that the Turks employ it as a substitute for wine, the more agreeable
beverage of the Europeans, and we find it equally exhilarating. We may
therefore employ it in small doses and at short intervals, viz. being exhibited
every 2 or 3 hours according to the nature of the case. But it has been al-
leged that we have a better stimulant in wine, which will answer all the
purposes of opium and is in other respects preferable. As a general rule I

① Lisbon -

Strength of the different wines

By accurate analysis, it is found that Madeira, Sherry, and Port, contain about $\frac{1}{4}$ of alcohol; and claret and Lisbon $\frac{1}{6}$ of Alcohol

- ③ Wine is useful where it makes the pulse fuller & ^{slower} stronger, subdues delirium - calms irritability and induces to sleep. But on the contrary, if it accelerates the pulse, flushes the countenance, increases the temperature of the skin, excites thirst, aggravates delirium or restlessness, it is injurious -

are willing to acknowledge that wine is more agreeable and sufficiently 273
powerful, also that its stimulant operation is more durable and that it is
more nutritious provided good Madeira or Sherry is employed, if late years
Claret and the French wines generally have become fashionable and are said
to be more grateful; they are however infinitely less stimulant and nutritious
and from the large quantity rejects the whole. In administering your stimulant
remedies recollect that in the more advanced stage of the Typhus, there is a
great want of the susceptibility or excitability in the system and therefore that
large quantities of your medicines are to be given. Thus it is often necessary to
give a quart of wine in a day and there are cases when even two or three bottles
in a day are demanded. Opium however is preferable to wine in several
cases. 1st Whenever Delirium prevails; when this arises in the commencement
of the disease, it depends on inflammation of the brain, and is to be treated
on the general principles of inflammation; but in the more advanced
stages, delirium arises from an opposite condition of that organ, and here
opium is far preferable to any other medicine. 2nd When there is great rest-
lessness, anxiety and watchfulness, here also opium is invaluable in its effects,
and in the final stage of the disease. 3rd Where Diarrhoea supervenes which debi-
litates the patient and renders the operation of the medicines ineffectual, Opium
is indispensable and to be preferred to all other remedies; Here it is also fre-
quently combined with Chalk as in the Cretaceous pills.

In Typhus fever where tonic and stimulant remedies are demanded the
Peruvian Bark was formerly much used; at present it has lost much of
its reputation in this complaint, the evidence on this subject is very contra-
dictory, some practitioners praising it very highly, while it is condemned
by others. This diversity of opinion certainly proceeds from its having been
used under very different circumstances in the fever. There are cases I
think in which it may be employed with very particular advantage. It is

② either alone or in combination with serpentaria.

③ The Lurine is preferable to the bark in substance

not useful either in the very early or very advanced stage of the disease, but about the ²⁷⁵ middle of its course it often shows a disposition to Intermit or Remit. This is generally in Typhus from whatever cause it may arise, but especially from miasmata. precisely at the point where this tendency is manifest, the Bark is to be administered. ^② I have hardly met with an instance in which it should be given in substance owing to the peculiar irritability of the stomach or from some other cause; I therefore always advise the aromatic decoction so often mentioned & which in most cases proves agreeable, but when it does not some of the bitters or aromatics are to be employed: of these the Serpentaria is one of the best. When the Intermittent form appears it has been very fashionable to employ the Arsenic. ^③ I have not employed it; as believing it operates by inducing debility. I am apprehensive it is in reality injurious. but it is highly recommended by many modern authors, especially to meet one indication, as where there are tumors, subaltus tendinum, low delirium, &c. Another set of remedies have been strongly recommended, the Antispasmodics. At one time the Carbonic Acid in the form of yeast was much employed, with a view of correcting the putridity supposed to exist; but it is now sufficiently proved that putrefaction never takes place in the living body. Indeed it is found that petechia, vibices, &c. which were supposed to be proofs of putrefaction are in reality connected with the state of the body which is calculated to resist putrefaction: the theory is incorrect, but the practice is beneficial. It is undoubtedly one of the most grateful stimulants we possess, relieving nausea, imparting tone to the stomach and hence to the whole system. But yeast is not the most pleasant form of exhibition when it is given 3p. is the dose g. s. h or g. l. h. The Seltzer water is to be preferred or the Effervescing Draught. But perhaps the best form is the Malt Liquors, they all, especially Porter display the most important effects; nothing is more grateful or beneficial in all low fevers than five draughts of London porter; that of this country is not so good; it acts not as a stimulant

O Champain wine.

but as a Tonic, also, producing stable and permanent effects and is often to be preferred to wine or any of the diffusible or transient Stimulants. In Europe Cider is much used, but it is less efficacious, it is the favourite remedy of Dr. Guey. With views similar to those which prompted the exhibition of the Carbonic acid, the Mineral Acids have been employed. They were introduced half a century ago but their full establishment in practice is owing to Mr. Forster, he first employed them in Cynanche maligna and so much satisfied with them as to employ them in the low states of fever. He commenced the cure with an Emetic & Purg, and threw in the acids; his reports are altogether in their favour: in this he has been very generally followed especially by the London practitioners; but perhaps they have been employed still more on the Continent during the late war in Germany. Professor Reich of Pavia was so successful in the military Hospitals with the use of these acids as to have attracted the notice of his Sovereign who liberally rewarded him so he might disclose his secret, prior to this he did not reveal the nature of the articles which he employed. nevertheless I am disposed to believe that they have been overrated, they are always grateful and in some instances beneficial; but without the assistance of other remedies they are very feeble: their only indication is to allay thirst, correct the dryness and ill-conditioned state of the mouth and fauces, and also by a tonic power they impart a certain degree of strength to the patient: But they are never to be employed to the exclusion of other remedies. The Muriatic acid is usually preferred and is given in doses of ʒss or xv in an infusion of bark or Columbo every 2 or 3 hours. These are the remedies for the first and second stages of the complaint; but when from an uncommon vehemence in the fever or from improper treatment it is still protracted, the system sinks and a new plan of treatment is demanded; never despair of your patient especially in Typhus fever, but invigorate your exertions and call up all the resources of your art, as very often when there is hardly the slightest hope of a recovery, you will be gratified in beholding an essential change for the better.

① Capsicum Annuum.

④ Spts of Turpentine.

Brandy bath, by pouring heated brandy over the body & rolled ~~up~~ in blankets. Relates a case to which Dr. Physick, when he ordered this treatment and the patient unexpectedly recovered.

279

The Treatment here consists chiefly in augmenting the doses of the preceding remedies viz. Vol. alk. wine or undist. Spts. &c. The volatile alkali is to be given in the doses of gr. x. every half hour or hour and as much Madeira wine is to be taken as the stomach will bear. of Late years Cayenne pepper has been recommended; the practitioners of the West-Indies have employed it in Cynanche Maligna and in other low fevers; and they consider it as a very important addition to their remedies. The dose is gr. iv or v. every two or three hours. I do not know that much advantage is to be derived from Blisters in this advanced stage of the disease, they very rarely draw and if they do Gangrene is often the consequence. Frictions with stimulating substances prove very useful. an infusion of Cayenne pepper in Brandy is very useful ℥ss. of the powder to ℥j. of Brandy; every portion of the body is to be rubbed and it quickly excites a glow over the whole surface. I have known cases where the pulse could not be felt, but in 12 minutes it became sensible. It has also been recommended to rub the surface with phosph. mixed with olive oil of this I know nothing from my own experience. The Decoct. of Canthar. is another remedy of the same nature, but it is more apt to excite vesication and should be applied by dipping rags into it and tying them on the part; There is another class of remedies much employed viz the antispasmodics. as Musk, Castor, Asafatida; the first is the most powerful; it is given in bolus or in julip: the Last is preferable.

℞. Moschi. -- ℥ij.

Gum Arab. -- ℥ij.

Sacch. Alb. -- ℥j.

Aq. — — — ℥vj. m. Dose ℥ss. every 2 or 3 hours;

this I prefer to the most of the useful formula. Castor I have seen but little used, asafatida has been much employed. It also has been given in several forms, pills, Tinct. and ^{watery} solution, I prefer the Last. ℞ Asafatida ℥ij. aq. ℥vj. m. Dose ℥ss. The advantages to be expected from this practice, are, to quiet the tumors,

⑤ Spts of Serpentine -

dose is a tea spoonful 4 or 5 times a day -

and subultus tendinum, It relieves the slow delirium and improves the system; 281
as a general rule they are not to be preferred to opium, but some cases in which they
are not to be employed. In the low stages of fever, the greatest subjects of Complaint with
the practitioner is the loss of susceptibility to his remedies: on such cases we must
resort to another part, to which, they are to be applied. When the stomach becomes
insensible, the rectum is a very good surface: The rectum is said to be the
of the body, at any rate long after our remedies cease to make an impres-
sion on the stomach, they will act perfectly on the rectum; all the usual remedies
may be injected, vol. alk., wine, Laud.; &c. especially the last. An injection of
Laudanum often proving serviceable after the stomach has ceased to act. Even
here Mercury has been employed and strenuously recommended. The Alimenta-
ry canal is loaded in most cases with faeces, which being removed, the system
is roused and rendered more manageable. In another stage where there is exte-
reme debility, little fever, Coma, or slow delirium, the tongue & fauces, perhaps
also the al. canal covered with a dark acid matter; Mercury is employed by
many and it is said with singular advantage, in minute doses and very copiously
by frictions. But the relief of the bowels is not the only view, it acts also by exciting
the mercurial fever, changing the exciting state of things and induces an entire new
state of the action in the system; of this I have no personal knowledge, but I believe
it to be exceedingly hazardous, and with my present impressions would trust to
stimulants, &c.; but at the same time you must not omit the other remedies, Calomel
should be generally combined with the vol. alk. or opium. This is not altogether a
new practice, it was introduced 8 or 10 years ago, and has been sufficiently
successful to justify its reputation. I have seen it very serviceable in Typhus
from bilious fever in this city. ©

This is the treatment of Typhus by general and Constitutional remedies,
but there are certain Local affections demanding attention, most of these I
have already noticed, as the Diarrhea, Restlessness, vigilance, &c. to be relieved

② Leeches - opening the temporal artery -

bellium - the remedies for determination to the brain
just mentioned are the best - Opium

Singultus - lime water & milk

Hoffmann's anodyne liquor - natural & artificial
musk - Brandy - Ether -

① Over or on the nape of the neck.

by opium: But the determination to the head requires more precise notice; all the 283
Symptoms of the disease, and dissections shew, that the brain, ^{the} ~~the~~ not the primary
seat of the disease, is much affected by it. Dissections reveal marks of inflam-
mation, particularly of effusion; with these facts the indication is plain to re-
lieve the brain by all the means we have so frequently noticed; particularly topi-
cal depletion; the removal of the hair has alone removed the delirium, if this
should not answer cold applications are to be made these failing a blister
should be applied over the whole head. It is not unknown to me that some have
objected to this, but certainly on no solid foundation; there are some points
in practice so well settled as not to be disturbed; as well might you deny the
utility of mercury in Syphilis, or Quinine in Intermitt; as of the use of Blister
under the above circumstances. Taught by the recent experiments on the
Spinal marrow, I am inclined to believe, that the application of Blister to
the spine and partly to the neck would be useful. By an interruption of the
influence of the Spinal marrow, the Respiration, the Circulation, &c. are im-
peded as is strongly manifested in Typhus, where the respiration, Circulation,
and functions of the stomach are disordered; probably from the interruption of the
action of this organ. There are not wanting facts to justify this idea. The West-India
practitioners say that no remedy is so effectual in Tetanus as Blister to the spine,
the writer affirms that they will all yield to them.

These are the remedies for Typhus fever, but there are one or two additional cir-
cumstances to be noticed, the apartment should be fully ventilated; In the W-
Indies they derive great advantage from changing the room; in some instances
the character of the disease has been completely changed by it. This is more
readily to be done as no inconvenience results from it; indeed it is asserted
especially by Dr. Jackson, that Exercise in a carriage is especially the best
remedy in Typhus fever. This cannot always be done, in such cases the
atmosphere of the chamber should be kept pure.

The great objection to it is, that the patients are very much disturbed by the vapour. Nitric most so.

1st Cleanliness should be studied; the linen of the bed of the patient should be changed daily at least. 285

2nd All Excrementitious matter should be quickly removed.

3rd The floor is to be sprinkled frequently with water, vinegar & water, such as is better the ardent Spts. — or washed thoroughly.

4th When in crowded places Fumigations with the muriatic acid should be employed; all company is to be excluded as they vitiate the atmosphere, affect the mind of the patient, and induce delirium; this is the management to be pursued in Typhus fevers. But this fever is so complicated that no precise rules can be laid down; they sometimes as in warm countries yield in 10 or 15 days, while in temperate climates they last 5 or 6 weeks: In such cases great attention is required from the practitioner to notice the daily changes of their patients and vary their remedies accordingly; for in this long period the same remedies will not answer for more than two days, but must in that period in most cases be changed. The only rule to be given is to regard the condition of the system; no other definite rules can be advanced; But with discretion and judgment the practitioner will often very often prove successful.

Diet in the advanced stages or consist of the farinaceous articles —

Drinks — In the early stage mild — In the advanced stages stimulating — wine whey — wine & water — &c.

Now let him be shaved. if he be a man, The Partridge & Chicken water. Leaf Tea. Boiled chicken. pure water. Diluted Malt Liquor; abstain from Mental Stimulants;

Winter Epidemic or Spotted Fever.

I have already observed that Typhus fever prevails very little in this country, which, is happily exempt from the various causes which induce it. In place we have of Late years been devastated by a disease somewhat analogous to it which has spread destruction through the whole extent of our country, and which, for a long time resisted the exertions of the physicians and entirely changed our practice in other diseases. we have hardly at this time dared to return to our former remedies for fear of this dreadful scourge.

In tracing its history we find that in 1806 the physicians of New-hampshire were attracted by some sporadic cases of a disease entirely new to them, and which resisted their usual remedies. It soon spread through the New-England states and entered New-York, at the end of 2 or 3 years these portions of the country were universally affected; in these places it stopped for a short time and then proceeded by a direct course through Penn^a, Ohio, and Kentucky, and in the last 2 years have visited Virginia, and the whole of our southern states. It appeared in this city at the close of the winter of 1813. It was not ushered in by any of the usual premonitory signs of Epidemics, there was nothing remarkable in the disposition of the weather, or in the existing state of the prevailing diseases, preceeding its appearance. True it was that on the opposite shores of New-Jersey and in the neighbourhood of this city we heard ^{for several weeks} of the devastations of an universally morbid fever, but our city continued healthy till the close of the winter, as the season was far advanced its devastations were not very extensive before it was checked by the warm weather. In the succeeding winter it appeared in an aggravated form, its prevalence was greater and its unfortunate victims much more numerous.

I cannot possibly give you a complete history of a disease which was so much modified in its character, all I can say will be a brief summary of

my own observations, and of what I have learnt from numerous communications 289
on which I can rely; all agree in the Potius disposition of this disease, assuming
every variety of shape and appearance. But in whatever form it appeared there was
a great and sudden prostration of the strength, accompanied by alternate chills
and heats, the patient feeling hot and cold in quick succession, in a short time
the skin becomes dry, pale and mottled, the face livid and sometimes of a bronze
colour, the nose contracted, the forehead smooth and polished, the eyes
wild and glassy, the countenance betrayed the greatest anxiety and distress, the
pulse at first slow and depressed, soon quick, feeble and tremulous, like the vibra-
tions of a cord, and scarcely perceptible; from the commencement there were gene-
rally partial wanderings of the mind, which were succeeded by wild delirium
and finally ended with stupor and lithargy; sometimes the invasion of the dis-
ease was more sudden and violent, it is said I believe with truth that per-
sons while engaged in their usual occupations have been thrown down as if
struck with lightning. In some instances its attack was marked by excruciat-
ing pains in the small joints, as the fingers and toes, which extend to the back,
to the sides and head, it was compared to the stinging of a bee or the pounding of
a hammer. The pains in the ~~head~~ joints was however fugitive and finally sit-
ted in the head, producing an injury of the sight from mere dimness to complete
blindness, and also delirium, coma or paralysis. It was more common to
be attacked with wandering pains in the limbs and body which would fasten
in the head and be accompanied with extreme languor as well of the
mind as of the body; the fever was attended with a dry and parched tongue,
feeble pulse, and if not checked would soon induce other affections,
as vertigo, throbbing of the temporal artery, stricture across the eyes and
forehead, ~~by~~ morbid vigilance, and sometimes a profound somnolency bordering
on apoplexy, of delirium there would be various gradations, from the slight
increase of fever, to the most violent rhapsody. If the patient had possession of

③ This kind is very common.

④ occurring about 1 in 100 times

his senses, he was dejected, terrified at the thoughts of death, continually 291
sighing and groaning, and his imagination presenting the most hideous
phantoms to his view. It is difficult to conceive of a situation more
anxious or distressed.

There is a form of the disease in which there is no local determination,
but accompanied with the same prostration, listlessness and anxiety, there is
a sense of stricture across the forehead, but there are no chills or fever, the pulse
is 140 or 150 in a minute, tense and quick; this is the most insidious form of
the disease and is apt to deceive even the experienced practitioner. — —

There is another also in which it appears, that is in the form of Pneumonia
inflammation, being accompanied with violent pain in the sides, panting res-
piration, excessive cough, bloody expectoration, flushed countenance, and
by a red, suffused, wandering eye and other marks of determination to the
lungs. In the Southern States it is accompanied with considerable gastric
effusion, being attended with distress at the stomach, bilious vomitings, pulse
full, voluminous and strong, yet soft and easy compressible, and not possessing
the capacity for resistance, which exists in the bilious plency of our country;
it is very apt to deceive the inexperienced practitioner and induce him to believe
that bleeding was necessary as in other inflammatory fevers; In a few days
the typhoid state becomes clearly marked; the muscular power now rapidly
declines, the patient sinks into a slow stertorous condition, the tongue, fauces and
perhaps the whole alimentary canal becomes incrustated with a dark, brown,
hard incrustation, the extremities become cold, the skin pale and moist,
petechia and vibices appear on different parts of the body, from which circum-
stance it has been termed the spotted fever; but these are comparatively
rare in their appearances. In some instances particularly to the South
the throat is the seat of the disease, I saw this at Alexandria in Vir.
In the attack there it is very similar to the common Catarrh, but we are

- ③ In the great cavities of the body we find extravasations, exudation of coagulable lymph. serum, &c.
- ④ The congestive differs from the inflam^y. - Thus that the arteries are concerned in the latter, the veins in the first.
- The blood is florid in the inflam^y. dark in the congestive.
- The pulse feels inflated. In the congestive the deep-seated veins are loaded with dark blood. In inflam^y. we find on dissection all the affected parts injected with arterial blood.
- What is the cause of this congestion? The arteries retain their vitality longer than the veins, & on this account they are emptied by their contraction, at the expense of the veins -
- The brain & nerves are the proximate antecedent causes of Congestion. (see page 294)
- It is contended by the that it is owing to a depraved or pernicious diet -

soon surprised by a sinking of the pulse, by a difficulty of respiration and deg²⁹³
lutition, there is no enlargement of the tonsils, but the lining membrane of the
mouth and fauces is of a mahogany colour and ~~not~~ ^{but not} swelled & florid as in com-
mon inflammation, ~~but~~ in every way is of a more malignant nature. What
is the nature of this diabolical disease, which in such various forms is so destructive?
This is not easy to answer, it does not come under the nosological arrangement
of fevers, as is manifest from its sometimes ^{not} having one of the symptoms of fever. There
are often no chills, no heats and in many cases no disturbance of the func-
tions. Dissections shew that in the two great cavities of the body, there is gen-
erally a weak inflammation of the crepissillatous character, and slight, livid, &
~~partially~~ ^{lesion} as in cases of slight gangrene; In the brain there is often an effusion of a dark,
thin, gumous fluid, the blood exudes in some cases forming petechia, &c. &c. ©

Carefully considering the whole of the phenomena we must consider it as a va-
riety of Typhus action, differing from it in many circumstances, yet not whol-
ly dissimilar. We have accounts of something similar to it in the old English
writers and in Sydenham, Huxham and others. Dr. Baro of this Country de-
scribes a similar disease as occurring on Long Island in the year 1749, and we
have traditional evidence at least of its having appeared in other situations.

As to the causes of this disease there is some uncertainty; its origin is enveloped
in doubt and obscurity, from it appearing in cold weather, and being dissipated by
the warmth of Spring, it is supposed to depend on a low temperature, ^{and} this opinion
is strengthened by observing that the patients introduced into the Alms-house dur-
ing the winter season, have a fever generally very much resembling this. From
the extension of susceptibility or excitability, it is difficult to rouse them, but when
reaction is brought on the diseases are very analagous. This fever in the Alms-
house being marked by a dark incrustated tongue, ^{hot skin} pulse small, eyes glassy, a contrac-
ted ^{or dilated} pupil, and the same anxious countenance. But cold alone cannot be the
cause, we are therefore forced to bring in the depraved condition of the atmosphere:

By the remote cause, (^{inducing torpor of the surface} cold or whatever it be), the blood recedes from the extremal vessels, & engorges the internal.

The circulation is disturbed by this internal congestion, and thus we have difficult respiration, the system is depressed, not able to react.

⑥ Wine, Brandy, Carb. ammon. Camphor, &c.

⑦ After evacuations of the Alty. Canals, sweating.

295
However little this explains it we are obliged to resort to it; some few cases ap-
pear to have been propagated by contagion but that it is not a contagious disease
appears from what has been observed of it; that like other Epidemics, every
disease assumes its living. In this city this was so much the case that the
Lancet was abandoned in our usual winter diseases. Stimulants were resor-
ted to, and a complete revolution in our practice was affected. I said that some
cases were propagated by contagion, these however were ^{and not conclusive} very few. I find however,
that some of my medical friends are of a contrary opinion; they entertain do-
ubts of its contagious nature, and they have some strong facts to support them, de-
rived chiefly from our armies of the Line. The Militia on their return home
could be distinctly traced during their whole march by the fever which they co-
mmunicated to the inhabitants at every town or house at which they stopped.
Some of the inhabitants were seized with fever, but it is highly probable that this
was not the same fever, but that it was the common Typhus fever of Camps, which
is acknowledged to be highly contagious.

The exciting causes of this fever are no doubt similar to others, as error in
Diet, fatigue, anxiety, watchfulness, Change of Temperature &c. —

Unfavourable Symptoms. The countenance is marked by a very distressing
appearance, the skin ^{is} leaden, face brown, — In the Pneumonic form, ex-
pectoration of dark, gumous matter —

Favourable Symptoms. The pulse fuller and stronger, skin moist, tongue
clean, mind calm, bowels natural, return of muscular strength,
respiration easy — expectoration easy —

Treatment. Two methods have been pursued — 1st the most profuse
use of stimulants, and 2nd Sweating. I decidedly prefer the latter and find that
it receives the sanction of the greater number of practitioners in this city. The
best means of exciting sweating have already been frequently detailed
to you; I prefer the doers powder, one given every 2 or 3 hours, with

Diaphoretics with opium useful -

③ Here Spts. of Turpentine was useful when given.

④ With Tr. of Cantharides etc.

⑤ I ames Powder alone or combined with Cal:

The latter is improper when there is engorgement; The direct evacuations are useful, as Cupping, ^{frictions, &c.} applications, &c. The warm bath, to relieve congestion, then v. S.

297
this the free use of roine whey, and warm fomentations to the legs, body, and
armpits. When this plan is early adopted and perseveringly pursued for at
least 24 hours the cure is almost certain. When I have succeeded in indu-
cing sweating, I have never lost my patient - Opium was very useful &
particularly where there was much pain in the chest. When there is great
debility Hot toddy or something equally stimulant is to be given. As
the disease advances, or when called late in the disease then cordials or sti-
mulants are to be combined with the diaphoretics. The best is the rob: alk.
I had almost ^{said} it was the only remedy; it is to be fearlessly employed 5 or 10 gr every
^{or 2 hours} ~~hour~~ ^{At} Warm whey, Hot-toddy &c. are also be given if these fail. If there be
a rapid sinking of the pulse, then the deranged resources of nature are to be exci-
ted by vesicating applications, Rubefacients of Spts. of Turpentine, Cayenne
pepper and Brandy. This is the plan of treatment in the more simple forms
of this disease. When there is great Local determination we resort to oth-
er remedies, in conjunction with the above Emetics are very valuable, as
not only evacuating the stomach but also making a great impression on the
system, to be serviceable they must be repeated several times and of the most
active articles, as Tart: Emet: or Specac: - I have sometimes given the
James powder as it is said to act as a diaphoretic and purgative. These
are to be followed by the Mercurial purges Cal. and opium are often to be
combined, after these the stimulating diaphoretics, If congestion blisters are
proper, or if there be anginous affections, or delirium, or Coma, blisters to the
part affected are valuable. The Lancet when the vital energies are im-
paired is to be rejected, the powers of the circulation were so debilitated that it
would be of no use in relieving the engaged viscera; Cupping was useful
particularly when followed by the vesicating applications. The disease
in ^{the interior of} ~~this place~~ ^{states} generally puts on the inflammatory appearance; This is the
case also it is said in Vermont, Virginia & Tennessee; such is the history of

It deprives us of Rank, Honor and Liberty.

of this disease, which commenced its ravages 20 years ago in the Eastern States 299
and expired a few years ago in the Southern. The disease however proved no ways
unmanageable by pursuing the plan I have already laid down; Deaths in gen-
eral when they did occur, was owing to not having access to the proper means
of treatment, as present I believe it has become extinct in every part of the
United States. —

The yellow fever may originate either from a domestic or foreign source - Dr. Chapman.

It has several times been generated in Philad^a by the confined air in the hold of ships.---

Yellow Fever.

Continuing the History of Epidemics of our own country the yellow fever next presents itself to our consideration. I will not attempt to give you a complete history of this disease, it would be useless to engage too much of our time. The yellow fever is an Epidemic of tropical countries and particularly of the West-Indies. It has occasionally appeared in the U. States from their earliest colonization; but it was not until the memorable year of 1793 that it attracted attention. On this disease there is not one point which has not attracted the keenest controversy or which is better established at the present moment, than when the investigations were commenced.

Its origin, nature and treatment, have been equally disputed; on this subject I must lay before you some of the arguments on either side, but shall not enter minutely into their relative merits. As to the origin of the disease the dispute has been merely verbal, all admitting that the fever of '93 proceeded from vessels containing a quantity of damaged coffee; It is also true that it has been attributed to filth, but I doubt very much whether the local filth of our city ever produced an Epidemic of this character; for if the exhalations from our docks and common sewers were adequate to this, then no reason can be assigned why we should not have the disease every summer, as these exhalations differ very little as to quantity every year. Besides this general reasoning, there are some facts very conducive to prove this opinion; the scavengers who move this filth were remarkably exempt from this fever. Out of 50 who were employed in the year 1798 only one had the disease: no fact can be more conclusive than this, but it is alleged that they were so habituated to the effluvia as to become altogether insensible to it, this I would admit, if they had always been accustomed to it, but most of the scavengers were new hands who were

When the disease occurred in this city the disease prevailed to a much greater extent near the Delaware; few cases being known in the Western end of the town, which is much more populous than the Eastern -

There was ^{not} a single instance of the nurses, physicians, &c. taking the disease in the Hospital, where the disease prevailed in every stage by Dr. Smith's experiments -

employed for the time. But while I so far concede that the disease had ³⁰³
its origin from the vessels and not from the filth of the city, I do not believe
in the importation of the disease as generally believed. It is seldom that
at it comes in its formed state, but I believe that the effluvia from the vessels
from tropical countries produce this disease; and therefore that it is not necessary
any that there should be actual cases of the disease on board the vessels. Whether
these effluvia or exhalations act equally under all circumstances is doubtful;
perhaps a certain condition of the atmosphere is necessary; this is probable as
vessels from tropical countries do not always produce the disease, it was
long ago suspected that this disease could be propagated only under a high
degree of Temperature; but it has now been proved that unless during these
three summer months the mean temperature of the weather be equal to 80°
of Fark: the fever will not make its appearances. This assertion I make, as
from a Register which has been kept in this city from the year 1793 to the
present time, it appears Whenever the mean temperature of the above months
was under 80° there was no case of the disease, but that when it was greater
it uniformly prevailed, and moreover, that the fever was violent and extensive
in proportion to the degree of heat above this; this account is confirmed by a
similar register kept in the city of New-York.

Much has been said of the Contagious nature of this disease: that it is not
the case as a general character, has, I think been satisfactorily proved; I
will endeavour to concentrate the arguments on this point. 1st It has been maintained
that it is not contagious because it prevails as an Epidemic, giving
to all diseases the same character; and therefore must be owing to some more
general cause. 2nd By its not spreading beyond the sphere of the city, as was evident
in the city Hospital in the year '93 when thousands passed through it, &
there was not a solitary instance of contagion; there was no instance of the disease
being propagated by the dissection of those who died. 3rd By its being uniformly

304 4th the sphere in which the effluvia acts is limited.

- ① as cold is favourable to the spreading of contagion, as Typhus.
- ② By passing through the infected district, without having any communication with the sick. It is obedient to the direction of the winds, as was illustrated when it broke out at Wabunato H. warf. - Nearly all physicians are of the opinion that it is not contagious.

Dr. Hosack thinks that the contagious matter eliminated by the skin, mixes with the effluvia in the atmosphere, and forms a new compound, capable of engendering the disease -

305
suppressed by cold weather, whatever were its ravages, or however prevalent it might be, a frost uniformly stopped it. This is undoubtedly contrary to the contagious nature of diseases. 1st It is alledged that cases occurred in the country remote from the city where contagion could not be carried. On the other hand its contagious nature is argued by its always beginning at a point, and spreading in all directions as from the wharves of the city. 2nd that it has been actually propagated by contagion out of the city; of this there are many cases, and some very conclusive ones are related by Dr. Wislizenus. 3rd It has been said to be communicated by the clothes of those who died of it, one or two facts related by Dr. Rush renders this probable.

4th That no person ever has the disease twice, in this resembling all contagious diseases; of this point however there has been various disputes, some without qualification asserting that there are numerous instances of persons having the disease twice, while others maintain that no such thing ever occurs. Dr. Griffith who possessed an extensive practice during each of the several epidemics of the disease, says, that of the thousands which ^{have} fallen under his notice, there was not one in which it occurred twice. In the West-Indies the opinion that it does not occur twice prevails. The subject has lately received much attention from the British Government in consequence of the disease being prevalent among their forces in the Mediterranean. A board of the most eminent physicians was appointed who had an opportunity of consulting all that had been written on the subject and were furnished also with very important documents. They conclude 1st that the Yellow-fever is eminently contagious. 2nd That persons will not be affected more than once; to this point the facts they deduce are numerous and very satisfactory. In Gibraltar and in Cadix, there was no instance of the kind and from the knowledge of this fact, those soldiers who had previously the disease in the West-Indies were employed as nurses, not one of them

took the disease. If this be true it goes very far to prove and establish the fact. 307
As to its origin at least in the Mediterranean, it could be decidedly traced to a vessel from the West Indies. It could not be generated by filth as it prevailed in the neatest part of the city, not in the dirty portions. It did not arise from marsh miasmata or any of the causes of the autumnal fevers, as on one side of Cadix there is a large marsh which frequently produces the autumnal diseases, but the yellow fever did not appear on that side of the city, but was confined to the other. The Garrison of Gibraltar was placed in a rock which is free from every kind of filth and is preserved clean by the strictest military police. There is perhaps no situation less favourable than Gibraltar to the generation of fever, yet here it prevailed to an enormous extent; this could be distinctly traced to a vessel from Cadix which had by some oversight got into the harbour; the disease arose from the wharf and spread very rapidly.

I have mentioned now some of the facts on each side to show how different are the reports. It is not safe to trust to "a priori" reasoning on any medical subject but especially on this. If we did however, we would find nothing absurd in supposing that yellow fever is occasionally propagated by contagion, confessedly typhus is very contagious: some however have totally endeavoured to show that this is not real contagion, but produced by exhalation from the ~~extremities~~ excrementitious matter: of this I do not believe one single syllable; I have seen typhus fever propagated when the greatest attention was paid to cleanliness. While in Edinburgh a number of sailors were brought into the hospital from the British fleet afflicted with the fever, one half of the medical students who attended the practice of that house took the fever and many of them died, besides if this was the case there would be great diversity of character in the disease; but this is not the fact in all cases, it is the same nature precisely; differing only in violence,

Difference between Yellow & Bilious fevers.

1st. - Tho' both arise from miasmata, they differ in degree -
to generate yellow fever a particular kind of miasmata is
required.

The yellow fever is a Continent fever, having but one
paroxysm -

The yellow fever has its throne in the stomach.

The yellow fever diminish the susceptibility of attack,
the bilious fever increased.

Dr. Chapman thinks the yellow fever never occurs twice in the
same person -

Bickison on yellow fever. He says those who recovered
were never attacked a second time.

Dr. Pinnin says the same thing.

The two diseases are not relieved by the same modes of
treatment - one confined to cities, the other in the country.

If they were the same a mild form of yellow fever would be
a violent bilious fever, and vice versa.

or in some little circumstance from the peculiarity of the constitution; this³⁰⁹
has also been established by the experiments of Bayzauth and Gregory which
prove that Typhus is as contagious as the small pox. but that its influence extends
a few feet only from the patient. If a person comes within the sphere of contam-
ination he will almost invariably be affected; they shew however that this
property of contamination comes from the patient, and not from the ex-
crementitious matter. I have already observed that all contagions are pro-
duced by a secretory action of the vessels, which being united by different
causes, must produce different results, or in other words fever of a differ-
ent kind. If this matter is thus generated in Typhus why should it not
be in yellow fever when this assumes a Typhus character? We see dys-
entery is very slightly contagious in its inflammatory acute state, but
when accompanied with Typhus action it is eminently so; I do not think
that there is much weight in the objection that the yellow fever is not propa-
gated in Hospitals and by

This I have already noticed

to be the case in typhus as it is seldom if ever propagated when the rooms are
freely ventilated; this is the case even with the plague which no doubt is very
eminently contagious. As to dissection it has been found that contagion
is not propagated by the dead body; when living it is generated by the vi-
tal action of the vessels which ceases with death. This has been remarked
by the attendants on the French and English armies in Egypt; these are
the principal facts on this subject; you must now judge for yourselves,
I do not wish to urge any particular opinion; but I think the old notion
on fevers has been too hastily abandoned. There is scarcely a fever or a
complaint of a febrile nature which is not more or less connected with con-
tagion and especially when it assumes the Typhus form—

It often breaks out immediately after exposure - Generally on the 3rd day - sometimes weeks -

Exciting cause - exposure to heat of the sun, night air, &c. &c.

The disease

is ushered in with pyrexia - stiffness in the joints, pains in the head, limbs, &c. great change in the countenance - sometimes much serenity of countenance; sometimes great distress, a dark malignant frown.

Epigastria tender, heat in the stomach, bowels at first constive, after diarrhoea.

at 12 hours pulse much more active, skin hot & dry, great accumulations of blood in the brain & abdominal viscera - nausea, vomiting, &c. &c.

The stomach evacuates itself by a kind of singultus, like a man very drunk. eyes loose their redness & assume a dirty yellow colour. skin drier or moister.

Paralysis of some of the limbs, &c

At the 3rd day an abatement of most symptoms, this is delusive - Black vomit soon occurs - feeble pulse, diarrhoea, singultus - hemorrhage from the eyes, ears, gums, fingers, &c. Convulsions & death.

340

Nature & Treatment of the yellow fever has also been the subject of great dispute: By some it has been considered as a fever so feeble in its action that they gave it the name of Typhus Seterodes; others have taken a directly opposite view and consider it as a powerful inflammatory fever; How it appears in the West Indies, I cannot decide, but here certainly it is a disease of a typhoid type. It assumes a variety of forms, all of which, it will be impossible for me to detail, as they are variously modified by numerous circumstances, the opinion of its typhus nature which prevailed in this city for some time & which was received from the West Indies was soon dissipated chiefly by the Labours of Dr. Rush, but his opinion of the disease was not less erroneous, It is well known that he always believed and taught, that it was merely an aggravated form of the indigenous bilious fever of our country having an inflammatory type. This error is manifest from the symptoms of the two diseases. It is universally acknowledged that the Liver is the seat, or as Dr. Rush himself termed it the throne of our autumnal bilious fevers; as to the present fever there is no one symptom whatever of hepatic derangement: the stomach is pointed out as being the part primarily affected and as the continued seat of the disease. Dissections have fully proved this; Dr. Physick who was the physician of the city hospital for the reception of patients having the yellow fever, made very numerous dissections. His reports show, that all the phenomena of the disease are to be referred to inflammation of the stomach; that this organ was always inflamed, sometimes very slightly, varying however from a slight blush or fullness of the vessels, to that of violence or inflammation which induced in some cases sphacelus or complete mortification. The Black vomit which appears as a frequent symptom is an altered condition of the natural secretion of the stomach, and is not vitiated bile as has been maintained by many writers: that this is the case is undoubted certain by this, that the black vomit appears in

312 you never find the stomach inflamed where there has been copious discharges of black vomit.

The colour of the patient is similar to that in Contusion, not of a bilious hue - similar to those cases where persons have been swallowed -

② Fall down and die immediately - these cases were called walking cases -

Dr. Physick found a case where there was only pain in the great toe, - Dr. Rush seen it where there was only pain in the calves of the legs

Some where pain was only felt in the puerdian.

I have seen cases where the muscles were as rigid as in Tetanus -

Some cases where there was no pain, complaining only of debility, ~~it is~~ ^{it is} by one acquainted with the disease, can detect it by the peculiar countenance - tenderness of the epigastrium on pressure -

Eagerness to eat, sore throat, difficulty in deglutition, deep sighing, tenderness of the epigastrium,

tongue resembling raw beef, a white, tongue swollen & flabby, a covered with a glutinous saliva, continuing natural - partial or unequal perspiration, Cold limbs & warm hands - Suppression of urine - Lead countenance - hemorrhages of dark blood, vitæ, Coma, Black vomit, & a ravenous odour, are unfavourable -

The ^{crisis} Coma only terminates on the 3^d 5th or 7th day.

Convalescence rapid, and no danger of relapse -

It was first treated by Stimulating articles - Bark, &c.

other affections of the stomach. I have seen it in purperal fever, a disease¹³ manifestly depending on the stomach, in Hydrophobia, in Repelled Gout, in inflammations of the stomach from virulent poisons, &c. It is farther shewn that this is a gastric affection by the sudden and excessive prostration of the strength which so generally took place. Cases are related by Dr. Rush in which the individual was found dead² before any of the symptoms of the disease had been manifested. This circumstance is peculiar to the gastric affections. These alone of all diseases undermine the props of vitality and overturn the whole fabric, before danger is suspected. I have seen life to cease in common purperal fever where there was every reason to expect a recovery, in such cases dissections pointed out inflammation of the stomach, these dissections also shewed that the liver and its appendages remained sound; they had in no case any vestiges of disease, so also the brain remained sound except in a few instances in which there was a trifling effusion, but these were slight and accidental, and were not deemed worthy of notice. Admitting the accuracy of these dissections, of which there can be no doubt, especially as they have been confirmed by various others made by different persons and the difference between the two diseases is well made out, but influenced by the opinion of the similarity of the two diseases, the practice was on a high degree conducted on the depleting plan, bleeding was very copiously employed, and purges as Cal. & Salap, Scammony, Gamboge, &c. while a large majority of enlightened practitioners pursued this depleting system, the French physicians directed all their attention to calm the irritated state of the stomach, to check vomiting and as it were to wash it out by the plentiful use of mild diluent beverages; they resorted to the ordinary means to fulfill these indications, as fomentations & the warm bath; what was the comparative success of these plans, I know not, but I suspect there was not much difference

A palcration was not uniformly successful. Some died with a sore mouth.

The mercurial treatment failed in each & along the
Mediterranean.

as the disease appeared to be equally intractable whatever treatment was adopted. The French however acquired an immense popularity and they had this advantage that their treatment was mild and simple. At an early stage of the Epidemic in the West Indies, Mercury was introduced and received a fair trial. The fevers of tropical countries are more readily cured by mercury given to induce ptyalism than any thing else. Dr. Christolm of the West Indies trusts entirely to it. He immediately begins by exhibiting Calomel in the largest possible quantities 4 or 500 grs. being given in 2 or 3 days; and also he employed frictions of the mercurial ointment very extensively, the amount which he has used of these articles is almost incredible. His object being to induce salivation as speedily as possible he introduces the mercury by every avenue; the success of his plan has been said to be very great. When first introduced here it was singularly efficacious, so much so, that many declared when salivation was once induced the cure was certain but after a short time we began to distrust and gradually to lay aside the use of mercury. Nevertheless when a salivation was induced a cure was generally effected, and this is very intelligible; two such powerful fevers and so different in their nature could not possess the system at the same time; one must yield. But the great difficulty consisted in inducing a salivation. The Yellow fever possessed such an immense force, nothing is more difficult than to salivate a patient during high arterial action. The patient dies before the mercury acts on the system, and therefore the cure was seldom effected. In the violent cases ptyalism could not be excited, and in the milder ones it was not necessary. Most of the phenomena of the disease strengthened the opinion that the stomach was the seat of the disease; there was great gastric distress, and uneasiness, nausea and vomiting; indeed the disease was very similar to that produced by the violent poisons, when taken into the stomach, as soon as the pathology of the fever was understood, we

Professor Hassarck's plan failed with me -

- ② aided by blisters and Purgatives were given, as Calomel.
Small doses of Spts. of Turpentine -

From 1793 up to ¹⁸²⁰ more than half the cases reported to the Board of the dead -

4 out of 5 died in Gibraltar - 70 out of the 100 at Cadix in 1804. more than $\frac{1}{2}$ died at New York each year that it prevailed - In Baltimore they nearly all died - The same in Charlestown -

In 1820 in this city experiments were made - Dr. Hewson and myself had the care of the Hospital - we gave an ^{emetic} Emetic at the commencement - previous to inflammation - These were followed by gentle purgatives. Epsom Salts, i.e. Castor oil. Calomel, Magnesia, Cream of Tartar next Spts of Turpentine alone or with carb. ammon, or some essential oil - Generally the dose was $\mathcal{Z}j$. sometimes combined with Castor oil. $\mathcal{Z}j$. to $\mathcal{Z}j$ of the latter or $\mathcal{Z}j$ of the former. Of 16 cases in or used this way 12 recovered

became more successful in our treatment. In the first stage the indication³¹⁷
was to subdue the inflammation of the stomach to effect this the Lancet was free-
ly employed ℥xx . or ℥xxx . were sometimes taken at once and this very shortly
repeated. ⁽²⁾ Dr. Jackson of the West-Indies has told me that he is in the habit
of taking from 60 to 100 ℥ . at once. In doing this he did not regard Syncope wait-
ing till the patient revived, he continued the stream of blood. He states that
the object of this plan was to induce such a change in the system, that no vest-
ige of the disease would remain, and such was the effect, debility, being
the only circumstance demanding attention after such depletion. This prac-
tice gentlemen I do not recommend to you, it is due however to the character
of Dr. Jackson to state, that his veracity as a man, and his excellence as a phy-
sician, are undoubted. The Lancet however is to be employed, and too much
attention is not to be paid to the pulse, as it is small and depressed it is only to be
raised by overcoming the inflammation. As auxiliary evacuant Emetics
have been employed but since the stomach has been considered the seat of the
disease they have been abandoned as too irritating and the mucoial purges
have been substituted; of these Cal. by itself, and in various combinations
has been preferred. The combinations however I think hurtful as they are too
irritating to the inflamed surface of the stomach & intestines. When inflamed
I think Cal. is not more so than Caster oil, I have frequently employed it in
Dysentary when the bowels are in their most irritable and inflamed condition.
In yellow fever Calomel is given in large doses; there is always a loss of
susceptibility to the action of purgatives, and I have seen one drachm given
at a time and the evacuations produced by it were not too great. In general
however the dose in these cases is from $\text{grs} \times \text{v}$ to xx . every hour or two hours till it
purges. after this the bowels are to be kept open by the mild use of laxatives, as
the soluble Tartar. In the early stage Sweating was employed with advantage,
sometimes ~~entirely~~ entirely to it. active means were to be employed of which the

Counter agents. medicines which subverts the diseased action of the vessels. It is in ^{this} manner we account for the action of turpentine in yellow fever — I have long employed turpentine in puerperal fever, after proper evacuations, some employ it in the early stage of Puerperal fever.

The Saech: Saturated under similar views has been employed by Dr. Irvine of Charlston. ^{Dose} I have employed it to check vomiting in bilious fevers. also to allay tormina and tenesmus in dysentery. Boiling turpentine produced no uneasiness by being poured on the patient in the latter stage of the disease.

Manner of Prevention.

1st We should guard against its foreign introduction by strict quarantine regulations. foul vessels should be prohibited from entering. I would advise stone wharves, instead of wood, & the interior filled with gravel.

2nd Cleanliness throughout the city should be observed, not that I think it generates the disease, but it may aggravate all kinds of pestilence.

3rd When the disease breaks out, all intercourse should be avoided between the those of the infected district and others. All the inhabitants should be removed out of the infected district.

4th The line of danger should be marked out by a fence. never visit an infected district early in the morning or in the evening, for reasons I formerly pointed out —

external means were the best as the Shower Bath. on the account of the in³¹⁹
stability of the stomach our powerful diaphoretics cannot be employed, as An-
timony, Dovers powder, &c. In some cases we may venture the trial of the
dovers powder but generally the Eupatorium, the Spts. Minducri and
the Saline mixture are to be employed, when there is much heat on the surface.
Cold applications may be made. It is always to be remembered that the
stomach is the part primarily affected & that the instability of that organ
is to be attended to. Blisters are here very beneficial, they should be large
enough to cover the whole region of the stomach and should be repeated again
and again till they prove effectual. As the disease advances they may be
applied to other parts of the body and to the extremities; they quiet the insta-
bility of the stomach, raise and equalize the pulse, sometimes compose to
sleep, and greatly assist in restoring the regular order of healthy action, am-
ong the local inconveniences, nausea and vomiting are very troublesome.

I have no new remedy to add to what has been directed on former occa-
sions, all of which has been used here, as the Effervescing draught, lime water
and milk, mint tea, Serpentaria, &c. In an advanced stage the Scum
Perubithina has been introduced grs x. or xv. being given every 2 hours or more.
The Tincture of Cloves has been employed, but these are too stimulant to be
used, till the instability is in some degree subdued. It is a curious fact that
there is no remedy so well calculated to allay instability in inflammation
of the Alf. canal as the Spts. Turpentine, but of this more hereafter.

Delirium is to be relieved by topical depletion, by leeching, cupping and
bleeding from the temporal artery. In the first instance cold is to be applied to the
head and then blisters, As the disease sometimes shows a disposition to remit
or intermit, the bark was employed, but this was soon omitted as the stomach
was found to be too instable, the more agreeable and milder tonics were substitu-
ted as Quassia, although this was less mischievous, yet it was of no advantage.

320 5th Whether fumigation of Chlorine, &c. are sufficient is
to be determined by future experience—

I am still compelled to say that this disease, is the pes-
tilence which walketh in darkness—

Opium at one period was much employed, but it was thought not to be ³²¹ of much service: An injection of Laudanum appeared in some instances to relieve the delirium, restlessness and anxiety; Such are the outlines of practice which was finally almost universally employed; when called in the early stage of the disease, with diligence and favourable circumstances it will often be successful, but he who asserts that it is a very manageable disease ~~is~~ very greatly deceived.

Pestis or Plague.

The last of the forms of the fever which I shall mention is the pestis or plague. This I have never seen and can therefore only give you a short digest of the various authors who have written on this subject. Dr. Cullen places this disease among his exanthemata, and calls it a typhus fever of a very contagious nature and accompanied with extreme debility. If this description be true or not, at any rate the disease is very badly located, and it is certainly a febrile affection and should be treated with fevers. The terror which the plague always spreads before it has retarded all investigations into its true character. The physicians who were attached to the French & English armies during the attack in Egypt, have enlarged and rectified our information on this subject. They have shown that if the disease is at all contagious it is so in a very slight degree, that casual intercourse with the sick will not produce it, and that dissections may be freely performed with impunity. They state that it spreads only in crowded ill ventilated apartments and even then not more so than ordinary typhus fever. When the disease is at its height and very malignant and when the patient is in a profuse

Wm. H. Wood

323
perspiration. They consider it as an Epidemic disease. In Egypt it depends upon the exhalation from the Nile: this is shown by the appearance of the plague at this time. The river recedes after its usual overflowings, but after sometime the filth thus left becomes dry from exposure to the hot sun of the country, and then the plague ceases. Like all other fevers it depends for its origin on Marsh miasmata. It sometimes assumes the Intermittent or Remittent type and symptoms varied very much according to particular circumstances. Among the English troops it was greatly diversified; this was noticed by one of the best English writers; Mr. O'Keefe who was the chief army physician at that time. Those who were confined in crowded hospitals had the typhus form of the complaint; while those who were in open camps and exposed to the marsh air, had the inflammatory form. But admitting all that has been said of the fever as appearing among the troops in Egypt, yet we cannot hesitate in believing that in some cases it is contagious. Not regarding the many marvellous stories of its acting by contagion, we cannot overlook well authenticated facts. We will not examine the old writers on this subject or pay any attention to the production of the disease by fomites; but we will consult the late writers only. It has been found that during the prevalence of the disease in several parts of Europe, that persons escaped who avoided communication with the sick. In Rome in 1657, in which, the plague was more malignant than in any other place whatever; those who secluded themselves in monasteries, some of which were in the very heart of the city remained perfectly healthy; so also in Marseilles the disease was completely stopped by interposing an insuperable barrier between the sick and healthy parts of the city - some have asserted that it is not communicated to those who merely keep aloof from the infected. But this is probably not true, at least in Egypt. As yet it is not ascertained how long before the disease appears after exposure to the cause. Like other fevers there is nausea, headache, and

great languor for several days before a regular attack. generally it is 325
manifested by rigors and heats alternately, by great prostration, tremors,
anxiety, palpitation at the heart, syncope, giddiness, stupor or delirium
at the commencement the pulse is active, corded, but soon becomes weak
and tumulous: this state of things is before long followed by fastor of
the breath, the black vomit, also by carbuncles, buboes, petechia, hemorrhagias
of a dark, discolored blood, diarrhoea, cold sweats, &c. closes
the scene. The duration of the disease is very various, from a few hours,
to 10, 15, 20 or 25 days - Dissections; manifest much the same
state of things as is seen in yellow fever, the stomach is more or less inflamed
and in some cases all the chylipoietic viscera were involved in the disease;
I said that the liver was much disordered, thus differing altogether
from the yellow fever - Consulting the history of the two diseases there is a great
similitude between the plague and yellow fever: If they are not identically the same they
arise from similar causes, appear at the same season of the year, and affect
more than ^{the} inhabitants; each destroys the susceptibility of the system to a repetition
of the attack; each is occasionally contagious, and each may be imported, and both
arrested by cold weather. But there are some differences arising from climate and
situation, from the character, manner, modes of living and religion of the inhabitants
of the different countries and perhaps from many other causes. It would appear
that among the natives of these countries, that the plague generally assumed the
Typhus character. This indeed might have been expected, from knowing the
circumstances of the vulgar in these places, who, are surrounded by every
species of filth, by all the inconveniencies caused by the most abject poverty, who
are crowded in small, ill-ventilated apartments, on the contrary, among
the English it was highly inflammatory. It has been maintained by some
writers that carbuncles & buboes were pathognomonic signs of the plague: I have
seen them frequently in the yellow fever, and also in Typhus Gravior and especially

in long protracted cases — In the treatment of yellow fever and plague there is not 327
much difference, in the latter it is usual to commence with an Emetic. in this
the treatment of yellow fever is somewhat different, for here the inflammation of
the stomach did not allow it; but it was supposed that the cause of the plague
was seated in the stomach and by timely evacuations of that organ the dis-
ease might be checked. In Egypt the Emetic is said to have stopped the dis-
ease immediately; there were also in some instances bilious collections,
especially where disease assumed an intermitting form. Cathartics also
are given to evacuate the Alimentary canal. and after thus clearing
the prima via venesection is the next remedy. This is a very ancient prac-
tice, being mentioned by two centuries ago; it was carried to a great
extent by Sydenham and also by the judicious Dr. Rupeb; he however em-
ployed it with some limitations, resorting to it only where an inflammatory
character was developed. As to bleeding the French and English practi-
tioners in Egypt differed very widely; some employed it to a great extent,
while others totally neglected it. From an examination of their writings, I
conclude that a medium is the proper application of the remedy.

To Sweat in the plague has long been an established practice, origi-
nating from the idea that the matter or virus in the system was to be dimin-
ished by some means, & the best was proper sweating. They went too far, ex-
citing diaphoresis by the most heating and stimulating articles, by which
so much exhaustion was induced, that the consequences were usually fatal. In this prac-
tice however many modern writers differ. but I cannot, but believe, that here as in
all other fevers there is a point in which sweating is useful. The milder diaphoretics
answer the best. The English preferred the Sames powder, but probably any of the
Antimonials would answer as well, it is however the safest and most preferable
plan to induce ~~to induce~~ diaphoresis by external applications, especially by the vapour
bath. Cold applications have been much employed; no remedy was attended

by such prompt and unusual effects for which assertion we have the authority of some of the first practitioners. Throwing cold water on the patient is sometimes resorted to; but the sponging the body is attended with the most advantage - A new method of applying cold has been recommended by one or two modern writers and that is rubbing the surface of the body with cakes of ice; this was first tried by ~~cakes of~~ a Prussian physician who accompanied the armies in Egypt, and it is said that more benefit was derived from it, than any other practice. Many instances are recorded of the soldiers during their delirium plunging into the Nile, and when dragged out it was found that their fever was abated and that they quickly ~~restored~~ recovered. A case long ago was mentioned by Savary of a sailor, who, when delirious during the attack of the plague jumped overboard into the river and who immediately grew better and finally recovered. It is also recorded that Bonaparte put his army in motion while numbers had this disorder, a heavy rain fell during the march, which was eminently beneficial, great numbers recovering. External applications of another kind have been recommended namely frictions, and with olive oil. This was first recommended by Mr. Baldwin, British Consul in Egypt as completely protecting the system and easily curing those who were affected - This was in part corroborated by his successor Mr. Jackson. The physicians however found that it was altogether incompetent, serving only to mitigate the symptoms, and slightly to reduce the febrile action - A traveler has very recently affirmed, that the accounts of its efficacy were wholly false, being spread by the natives who wished to have a good market for their oil. In an advanced stage of the disease BLISTERS were useful, especially where there was any total determination to the head or other parts.

The vib. alk., opium, camphor, &c. were of advantage at this stage. After the Brunonian practice wane and all the powerful diffusible stimulants were freely and fairly employed in the early stage; but they completely failed aggravating all the symptoms and hastening the fatal termination.

Mercury was also employed and with very singular effects as in yellow³³¹ fever, when salivation was induced the patient recovered; but in almost every case the patient died long before this could be accomplished. Did we judge from the history of the plague it is not a more violent disease than our yellow fever. It is stated that about $\frac{1}{3}$ of the French soldiers died with it: this was exactly the case in our hospitals, where $\frac{1}{3}$ of the patients died who had the yellow fever. Dr. Valli who distinguished himself in Galvanic experiments lately visited this city. He had been some short time ago at Aleppo, Alexandria &c. with a view of instituting some experiments on the plague. The results of some of these he communicated in a conversation to Dr. Wislar. The plague is a contagious fever; it very rarely if ever occurs twice in the same person. Infection is produced by rubbing the matter of a sore, on the skin of a healthy person. If a mixture of the matter of the plague and variolous matter, be rubbed on the skin of a person who has never had the disease, it will communicate a mild form of the disease and prevent future infection; It will not be so mild in those who have previously had the small pox. If the matter of the plague be mixed with oil or any unctuous substance, it will also communicate a mild disease which generally protects the system. These are the results of 300 experiments. Dr. Valli came to this country to institute similar experiments with the yellow fever; but not finding it here, he sailed to the West Indies where he fell a victim to the disease which he was thus boldly investigating. He was a man eminent, as a philosopher and for his inquiries into infectious diseases one who was entitled to credulity and whom we have no reason to suspect exaggeration. I have now finished the primary and idiopathic forms of fever and shall pass to the consideration of

HECTIC FEVER.

By all nosological writers, fevers have been divided under the two general heads of Idiopathic and Symptomatic. This division however I am disposed to reject; All fevers I believe are secondary and symptomatic as will appear from a review of the various origins of fever. This will be admitted as correct with respect to those which arise from wounds and other injuries to the body of a similar nature: so also those which arise from the inoculation of any virus, as that of small pox, or those generated from the action of poisons, as corrosive sublimate, Arsenic, &c. This position so far is indisputable, but it is not less true as it applies to Idiopathic fevers so called. Each of these arises from miasmatic effluvia or from contagion, but these injurious effluvia can only be admitted, by being entangled with the saliva and swallowed. Hence the system can only be affected through the stomach. It must be confessed that some have considered the lungs as the avenue by which they enter the system or the part on which they operate. but this is highly improbable from the great want of susceptibility in these organs & 2^{ly} from the lungs being solely secretory organs, through which nothing can be received by the system: Whether this be the case ^{not} is of but little importance in the present question; as these organs form but one point on which impressions are made, my theory is that all diseases must have their origin in local irritation and spread more or less according to circumstances. The stomach is the organ most commonly first excited. Hence the impression is diffused by multiplying the trains of morbid associations till all parts are involved in a greater or less degree; These observations I have now made previously to the consideration of Hectic fever which has always been considered as a symptomatic disease but which is not more so than those we have already considered. Hectic fever is usually associated with Phthisis Pulmonalis, but

may be connected with many other diseases. Whatever produces great irritation will induce this fever. It was formerly thought, that it could be generated only by the absorption of pus. But this is wholly denied by Mr. Hunter, who first showed, that it frequently prevails where no matter is formed: and the largest accumulations of pus will often not excite it, besides pulmonary, it is associated with several other diseases, as the white swelling of the knee joint and similar affections of other articulations, also Gout, Rheumatism when long fixed in the joints -

2nd Scirrhus and Scrofula ^{especially} when in glandular parts, as the mamma, ovaria, uterus, Liver, &c.

3^d In obstructions and congestions of the Liver and other vis cera, even when no abscess or ulceration is formed -

4th From simple irritations as from a stone in the bladder or ureter, or from pins, needles, &c. from the stone in the gall ducts; or the pins, &c. lodged in different parts of the body of which there are many examples -

5th It is sometimes met with in pregnancy merely from the irritation produced by the gravid uterus.

This disease is the same in nature and type as the Intermittent fever; indeed they resemble each other so much that they may be confounded, but there are some circumstances by which they may be distinguished -

1st The paroxysms of Hectic fever are seldom regular in their appearance but are generally very irregular, while those of an Intermittent recur at stated periods -

2nd In Hectic fever there is very often no chill and on the contrary there are sometimes severe rigors, but no hot or sweating stage -

3rd The paroxysm is not relieved by perspiration, when this is very profuse the patient will usually complain of strong sensations of heat or cold -

4th During the hot stage there is uniformly a circumscribed blush on the

1. Erupt when caused by some affection of the alimentary
 canal and then we have furred tongue indicative of an increase
 of the alimentary canal - in Metic Fever.

cheek which is very characteristic and widely different from the blush ³³⁷
in Intermittents—

5th The tongue is always clean and put a naturally florid and polished,
while in intermittent it is furred white, or of a bilious tinge, this difference
you should remark, as well as remember—

6th The appetite is unimpaired and the bowels are in a natural condition.

7th The urine is turbid during the paroxysm, but clear and pellucid du-
ring the intermission; directly ^{therapeutic} is the case in Intermittents—

8th The mind in Hectic fever is generally cheerful, in intermittent it is anx-
ious and distressed. It would be easy to point out many other points in which
the two diseases differ; these are the most prominent and will answer.

As to its management, this resembles intermittent, both as to the general
principles and to the individual remedies— It may be divided into that
proper during the paroxysm, and that, during the apyrexia—

To prevent the paroxysm Opium is the most efficacious article, as testi-
fied by a large number of patients; but on account of the increasing debility, we
do not assist its operation by warm beverages, &c. these are also withheld in the subsequent sta-
ges for the same reason & hence we do not interfere during the hot or sweating stages.

during the apyrexia we act differently; here all these remedies are demanded which
are employed under similar circumstances in the other diseases, as Intermittents.
we have however a choice, of the best I will detail— This fever is inflammatory or
otherwise— when there is too much action as is the case in the early stage generally

Section is demanded before we use tonics: the blood drawn has the inflam-
matory appearances, not a single bleeding is to be relied on, but the operation sh-
ould be often repeated, small quantities are only to be taken as the system
is much weakened— The Alimentary canal not being oppressed by any irri-
tating matters, evacuations are not demanded or employed— but I must
think that in certain cases Emetics are of immense utility, not as evac-
ants, but

which is a very characteristic and easily distinguishable
 in the brain.
 2^d The tongue is always clean and unobscured by any
 white or intermediate of a bluish tinge, the
 your food is abundant, as well as the
 3^d The appetite is insatiable and the food is
 4th The pulse is strong and full, and the
 with the intermission of the pulse is not
 5th The mind is clear and is generally cheerful, and is not
 and the pulse is not so rapid as in the
 the two diseases differ, the one is a more violent
 state of the management, the one is a more violent
 and the pulse is not so rapid as in the
 during the first stage of the disease, the pulse is not so rapid
 to prevent the progress of the disease, the pulse is not so rapid
 first by a large number of patients, but in a great many of the
 is not of its nature by any means, the pulse is not so rapid
 for the same reason, and we are not to be misled by the
 during the first stage of the disease, the pulse is not so rapid
 are supplied with food, and the pulse is not so rapid
 we have however a choice of the best and most
 the mind, which is a very much better state than the
 3^d Doctor is a man who is not a man of letters, but a man
 of a few years, and a high standing in the
 will be often of great service, and the patient is not to be
 is much to be desired, the patient is not to be
 taking water, or any other, and the patient is not to be
 that in certain cases Dr. Williams is of service, not in
 only, but

on the principle which I have so often explained. It may be received 339
as a rule to which there are few if any exceptions, that all periodical dis-
eases are essentially benefitted by repeated and active vomiting, thus
sea voyages are useful.

The system being thus prepared we may then safely resort to TONICS.
not the least celebrated of these is the BARK. This was the favourite rem-
edy of Dr. Cullen; but I have no hesitation of declaring that though so highly
supported, I have no great confidence in it. In my hands it has generally
proved offensive to the stomach, or purged and scarcely ever suspended the
paroxysm: but I may have failed from some peculiar circumstances, there-
fore do not from my report give up the bark, it has been too highly and u-
niversally recommended to be hastily abandoned. Chamomile, Quapia,
Columbo, Sarsaparilla, Myrk, &c are useful; in my hands this last
article either alone, or in some other combination answers better. There is
a prescription much celebrated, and which you should know --

R. Gum Myrk. -- Zij.

Sulph. Ferri. -- Zi.

Potash Carb. — Zi.

Sacch: Alb. — Zij.

Aq. Cinnam. — Zoj. m. Dose a table spoonful

occasionally. The bitters I have enumerated above are preferable to
the bark. I have more confidence in the Wine, & in the wild Cherry-
tree bark than in the cinchona. The cherry tree bark is a very important
article in this disease, in testimony of which I have a large body of evidence.

The WOLL USB was originally introduced by Garoide in this city, it
has been employed with utility in some cases. From analogy we may
suppose the Arsenic has not been neglected here, it has been largely
employed, and if we can credit the testimony of practitioners not without
advantage.

① The practice of giving the acid and opium has been recommended by Dr. Haunison of L. ville.—

my experience with it is not much; but in my few trials with this article, I have ³⁴¹ been greatly disappointed. Sacchar. Saturni was but little employed till lately. Dr. Irvine of South Carolina has recommended it as a most valuable article. I from his authority have tried it in several cases but with no decided effects; but from my confidence in the gentleman who has recommended it, I will not hastily abandon it. The Mineral acids have been used with much benefit. The Nitric is most effectual, I have employed it much, and am well satisfied with it. The Sulphuric is palliative. with the liberal use of opium this forms our soundest and most effectual practice. My practice is to give the Nitric acid as much as possible through ~~the~~ the day and at bed time to exhibit a large dose of opium, as also just before the paroxysm. as this is fever of irritation it was supposed that opium would prove useful; which is fully confirmed by practice. This is the best method of treatment. But there are many important remedies: I have mentioned Sulphur as being useful in periodical diseases; Dr. Physick thinks it is the best means of removing Hectic fever; I cant go quite so far, but I have a very favourable opinion of it when given in doses that do not purge. Carbon from its efficacy in Intermittents; I have employed it in Hectic, in one case it was very useful. Narcotics; as Hamlock, Hembanes, Common Vinegar - R. vinegar - ʒij - water sweetened - ʒvj. - m. dose a table spoon full now and then

Little will all our remedies avail without the patient is put into a large apartment; it is not easy to conceive how important this is. I have known a most inveterate fever cured by a removal to a large room - Exercise is important especially in the open air, Riding on horseback has always been highly and deservedly praised; such is the treatment when the fever is excited by causes which are within and not to be removed by surgical operations. when the cause lies externally it may be usually removed and the fever will immediately disappear.

⑧ more or less general plethora, & febrile symptoms.

Another kind in which there is a thickening of the vessels, as
in scurvy, &c.

Epistaxis is apt to occur in childhood, & middle age.

Hemoptysis at a more advanced age.

Hemorrhages.

These may be very properly considered as diseases of the blood vessels. The first distinction which has been drawn between them is that of the Active and Passive hemorrhagy. This was originally made by Stahl and has been advocated by Cullen and other modern writers. There is no doubt a foundation for this division, but the exact line between them cannot so easily be drawn - There is another distinction of more value, they may be considered as accidental, as vicarious, or as critical. The first of these can only be considered as a diseased state and demanding medical treatment - The critical are salutary, while the vicarious are never dangerous, except when they occur in the brain, lungs, or other important organ. - Cullen has very correctly defined hemorrhages, Pyrexia with an effusion of blood independent of external violence, that there is inflammatory action is proved by every circumstance; as by the appearance of the blood drawn. Hemorrhages of this kind are preceded by a sense of fullness or uneasiness of the part, from which the blood is about to flow, with some degree of swelling, itching and heat. Cases sometimes occurs obeying all the laws of fevers, particularly of intermittents. Hemorrhages is occasionally preceded by regular chills and during the hot stage effusion of blood takes place, this recurring for days and weeks. As a general rule we are more liable to these at the age of puberty when the body ceases to grow & does not demand all the blood formed. In early life the hemorrhage takes place from the arteries; In advanced life it is from the veins. Plethora being then transfused to the venous system; This is not however a universal law. It has been ascertained that the discharge is always venous from the Liver, Spleen, Stomach and hemorrhoidal tumours; while that from the nostrils and Lungs is uniformly arterial. - All hemorrhages considered as arterial.

CAUSES are exceedingly various, Lind states that one of these is the change of the balance of the circulation at puberty; but also we may add Local

Hæmorrhage

Sometimes whole families have a hæmorrhagic tendency.

Epistaxis is most liable to occur in persons with large heads and short necks.

⑤ Viscer hæmorrhage takes place by anastomosis or by exhalation.

The mucous membranes were liable to hæmorrhages.

severe cases arise in which hæmorrhage occurs from venous grief, &c.

⑥ and a determination of the blood to the internal parts.

irregularities of the circulation from peculiarities of structure by which the blood is ³⁴⁵
determined to particular parts. Thus Large heads and short necks, or narrow,
flattened, badly formed chests, render the individual liable to hemorrhage, gen-
erally it is active in the fall, and plethoric, and in the spring or early months of
summer - but this is not always the case, it is not unusual to discover hemorrhages
in persons thin and attenuated; but here it arises from local congestion or from some
unequal distribution of the blood. These are the causes dependent on Temperaments
or on constitutional affections. There are others which may be regarded as acci-
dental, subordinate or accessory to them: whatever invigorates or quickens the
circulation, or directs or concentrates it in a part, must be considered under
this head: the more prominent of these is violent exercise, as running, leap-
ing &c. also lifting heavy weights, violent gusts of passion, ungratified
venereal appetite &c. &c. 2nd External heat this is generally supposed
to act by rarefying the blood, but ^{confirmed by Haller} Sauvage has proved, and it is confirmed by
Haller, that this is not an expansible fluid, at least to any degree; that submit-
ted to a high temperature very little expansion was evident - that heat dis-
poses to hemorrhage every practitioner must have abundant evidence; as it is
seen so frequently in those who work in close hot rooms over fires, &c. it operates first
by stimulating the heart and arteries; 2nd By relaxing the surface of the body.
~~the body~~ 3rd Cold surface, particularly of the feet, also disposes to hemorrhage;
the mode of action is very intelligible: when suddenly applied as in the shower bath,
a sudden impression is made on the system and a corresponding impetus is
given to the circulation; but when cold is gradually applied there is an accu-
mulation of excitability, so that there is violent reaction on exposure to heat
or any stimulating article - 4th A diminution of the weight or density of
the atmosphere, this is evinced by the phenomena produced by the ascent of
elevated positions, and has been erroneously imputed to the extraordinary
exercise used on the occasion - Desauvure states that on ascending the Alps,

① Pathology of Hemorrhage.

1. Rupture of vessels - Rhexis
2. Erosion of their coats - Diabrosis
3. Transudation of the blood - Diapedesis
4. By opening of the blood thro^{of the vessels.} the mouth - Anaptamosis

Diapedesis & Diabrosis are both rejected.

Krichat says.

He never founds any traces of erosion or opening those who have died - In the living he could not detect it.

It is manifest that the exhalents do pour out blood, as in petechia. The same vessels in a state of health perform a secretory power, and when diseased the blood passes through them unaltered - by excretion.

The first step both in hemorrhage & inflammation is precisely the same but in active hemorrhage the vessels are relieved by a direct emission of blood, while in hemorrhage the congestion is removed by a more tedious process, as in the secretion of pus - effusion of serum, &c. -

Dr. Chapman thinks that all hemorrhages take place through the mouths of the exhalents, unless where the vessel is ruptured.

The exhalents possess their innervation in opening one set of capillaries secrete blood the other mucous. The same is also the case in hemoptoeis, epistaxis, &c. The same, or hemorrhage, is seen in every tissue subject to this effusion except the fibrous

347
Blood gushed from his nostrils, ears, Lungs, &c. though he used little exercise. His account is confirmed by Baron Humboldt, who experienced similar effects, from ascending the Andes in South America. These are the general causes of hemorrhages, which are assisted by various accessory circumstances, as ligatures on different parts of the body, posture, &c. producing a determination of blood to weak parts. To these we may add such as are caused by accidents, as blows, wounds, falls, &c. which appertain to the province of surgery. — The next point is the method of Treatment. But at the very threshold we are met by the question, Is it expedient or justifiable in any case to interfere? or shall the case at all times and under all circumstances be left to nature? The doctrine was originally advanced by Stahl; that these were owing to the efforts of nature to relieve the system, and when this object was accomplished the wound would close and the hemorrhage spontaneously cease. This is certainly true with some limitation: thus syncope will come on by which the flow of blood will be suppressed before any alarming symptoms are induced; nor is it less true, that such discharges can not be directly stopped by art, without ^{in some instances} inducing the most serious consequences. Thus it is indisputably a fact that hemorrhages within the cranium, which induce mania or apoplexy are frequently arrested by the flow of blood from the nostrils. The same is true of the critical discharges in fever and many other acute diseases, neither of which can be checked without the most imminent danger. But we can't always confide in nature; although generally wise and salutary in her operations, yet we must sometimes counteract her, and take the treatment out of her hands. Thus sometimes a proper direction is not given to the coacuation, instead of making the nostrils, hemorrhoidal tumours or other safe parts the seat of the discharge, the blood is emptied into the lungs, or within the cranium, producing speedy death. Nor is her incompetency less evident in not regulating the quantity of the discharge, and in rupturing very large vessels. In these cases art must interfere, or all will immediately be lost. As preliminary

② To reduce arterial action.

Treatment

In the weaker kinds we should equalize
the circulation and give tonics especially
the martial preparations.
Every thing else failing, a course of
mercury often useful in disease of the liver
spleen &c. in peptic hæmorrhage the
indication is to check the vitiated
state of the secretions as by the
mineral acids sulphuric phosphoric
Creosote &c.

to the consideration of particular cases of hemorrhagy; I will notice the general ⁹⁴⁹ principles, on which the whole are to be treated - Called to a case of profuse bleeding: the first indication is to stop the flow of blood; and when there are active or febrile symptoms, these are to be moderated. This is accomplished ^{1st} by reducing the quantity of the circulating fluids, by direct evacuation ^{by v. s.} &c. 2nd By refrigerants, external & internal, by external as cold applications of various kinds to the surface. By internal Refrigerants is meant a set of medicines so called of which the neutral salts are the chief. 3rd By Sedative articles or those supposed to reduce the activity of the circulation without evacuations as the Digitalis, Squills, Tobacco, &c. 4th By those Articles which astringe the mouths of the vessels; whether this is ever the case is to me problematical: But it is supposed that these form a large class of medicines, such as ^{the spirits of} Lead, Allum, The mineral and many of the vegetable acids. 5th on another principle some remedies operate by effecting ^{an expulsion of the circulating fluids} from the affected part to one less intrusted in the economy of the system.

This is very important and is usually attempted by stimulating pediluvium, or embrocations; but these at best are highly equivocal remedies and can't be compared to cupping and vesicating applications ^{linapisms} as near as possible to the part affected. Cupping is useful as well by revulsion as by evacuation.

The 2nd Indication is to prevent the recurrence, by doing away the cause of its reproduction - as the origin is usually said ^{connected with the febrile symptoms} in plethora, the best prophylactic is diet so as to fill the vessels as little as possible; all other remedies are palliative only and temporary and may prove injurious by inducing a habit as pernicious to the original disease. Thus v. Section is temporary in its operation and by frequent repetition it induces a habit which cannot be safely overcome. Purgings, &c. is liable to some objections; although it may be occasionally resorted to yet it should not be made regular or permanent more dependence should be placed on Exercise, this promotes the several secretions and

When it is dependent on direct debility. Tonic remedies are to be employed. Local congestions, however, must be watched. Exercise is very useful.

- ③ By this term literally is meant a spitting of blood. and does not convey an idea of the pathological condition. It may proceed from the mucous or inter cellular tissue of the lungs. pulmonary apoplexy occurs in the parenchyma. In some cases it assumes an infectious form. One case which I saw. The chill came at 9 o'clock in the morning, it also observes the same period. This is rare. The blood is less florid, than when from the lungs, as in Serpians, quakers &c.

④ It most resembles Hematemesis.

excretions which detract from the volume of blood and obviate local accumulations and congestions. These are the leading principles, and my next duty is to illustrate them by noticing the particular forms of hemorrhage and first of

Hemoptysis. ③

By this term is meant hemorrhage from the Lungs, Trachea and Fauces. We should be apprised that the discharge may come from these several situations, and of the signs by which they can be distinguished; as thus we may often save our patient much uneasiness and ~~no febrile excitement~~. In the treatment will say - When the blood comes from the fauces & Trachea there is only a hawking; there is no pain, no cough, no oppression, no uneasiness and no febrile excitement. In some cases by examining the fauces we may see the source from whence the blood comes; in some cases the parts are inflamed and somewhat swelled. Notwithstanding the hemorrhage from the trachea is usually moderate, yet it is sometimes very serious and demands all our care. I & others have known bleedings clearly to be traced to the trachea and in consumption from catarrh and from the tubercular form; on the whole it is usually of little consequence when it comes from the fauces or trachea but it always demands attention to distinguish the two - When the blood comes from the lungs it is florid & frothy, there is always more or less coughing, and it can easily be distinguished from Hematemesis which is dark and gumous. ④

It arises from most of the causes already enumerated, but there are some which more particularly produce this. It is well ascertained that some persons have a predisposition to this complaint, which is indicated by their peculiar structure; A narrow, flat thorax, a delicate habit of body, sanguineous temperament;

is chiefly appears during the ages of
15 and 25. females more susceptible than
males to hemoptysis,

hemoptysis

- ③ It may be owing to the posture - which is in a horizontal one,
and the legs drawn up.

- ④ This was the case of the late Chief Justice Chero

prominent shoulders, a long neck, &c. invite its occurrence. It is excited into action by a variety of causes, as ^{long &} loud speaking, coughing, singing, ^{laughing,} rage, any exercise, especially lifting heavy weights, vicissitudes of weather, irregular habits, particularly of intemperance, the suppression of accustomed evacuations, particularly of the hemorrhoidal vessels, or of the catamenia. Although it is usually induced by these causes, yet it is a curious fact that hemoptysis more frequently occurs during the night time, when the patient is at rest and free from any of the exciting circumstances ^{or copious excitement}. I am persuaded that those cases I have seen, a large majority have taken place during the quiet of the night; and this is the experience of other practitioners. Whether this is owing to an increased ^{case} disposition made by sleep, I have not determined: it is a curious fact and one not sufficiently elucidated. Of Hemoptysis there are several species, arising from different causes and indicating different degrees of danger. 1st that produced by accident, from a blow on the thorax, from a fall, from wounds of the lungs; If the injury is not extensive and the lungs are free from disease, there is no danger the patient soon recovers. 2nd That arising from excessive inflammation of the lungs, as ^{in the early stage of acute} ~~after~~ pleurisy and peripneumony; this is not very serious. 3rd It may occur from metastasis from other parts, as from the hemorrhoidal tumours, from the uterus, nose, &c. this is seldom prejudicial where there is no predisposition to pulmonary complaints, and where it is not copious. 4th It may arise from plethora, or from topical congestion, both of which are frequently relieved by it; this form does not necessarily occur in the full and plethoric, but often appears in the thin and valetudinarian, and tho' frequently it may end in consumption, yet this is not invariably the case. ^(u) Some persons who have frequent evacuations of blood from the lungs live to a very old age, of which, I have known many instances. Indeed it is a fact that long lived persons are often subject to some periodical evacuations. 5th Hemoptoe may arise from abscess or alveol in the lungs, following

③ Sometimes comes up rapidly with considerable effort - but then it comes up without effort in a full stream.

Hemoptysis may depend on Pneumonic inflam.
on metastasis.

on abscess. particularly tubercles.

on Plethora -- &c.

④ on the alarm in hemorrhages of the lungs.

ill-cured pneumonic inflammations - the blood here is mixed with 355
plegm or some purulent matters; in such cases a judicious course of treat-
ment will often promote a complete recovery - 6th the spitting of blood may
arise from tubercles & may be connected with a perfulous disease of the
lungs and of the system; here although the evacuations are small, yet it pro-
ves fatal by terminating in consumptions. That form of Hemoptysis of which
we are to treat, is attended with arterial and febrile action; this is ushered
in by a sense of weight and oppression about the praecordia, by a ^{dry} hard cough,
difficult respiration, ^{ticking of the fauces} a full irregular pulse and a flushed tumid coun-
tenance, sometimes there are chills, a coldness of the extremities, a palid &
constricted surface, pains in the back and loins, ^{disordered stomach,} flatulency and constipa-
tion of the bowels, extreme lassitude, &c. The indications here are obvious,
to reduce the ^{irregular} febrile action which subsists; with this view Vena Section
promises much, ~~much~~ many respectable practitioners have objected to
its employment - of these is the late Dr. Heberden, he deliberately asks the
question, how the opening of a second ~~question~~ vessel in a different part
can check a hemorrhage already existing from a vessel in the lungs? This is
sophism unworthy of that great man. However difficult the explanation
maybe, he well knew the efficacy of the practice was fully demonstrated
by very long experience: neither do I think there is any dark meaning attached
to the explanation; by opening the vessel in another part we invite the refl-
ux of blood to that part, and thus vena section operates by revulsion. A
solution however is immaterial; the fact is almost universally conce-
ded - To be effectual in the violent ^{cases, the} bleedings should be very copious.
(Small and repeated bleedings are idle and unavailing; they harass and
debilitate the patient and will not effect a cure. My practice is at once
by a large orifice, to draw off so much blood as to make a favourable impres-
sion or to subdue the force of arterial action; nothing less can be effectual.)

V. S. is the appropriate remedy both to relieve the topical congestion in the lungs, & to restore the equilibrium of the circulation - Also here the lungs have a tendency to take on the inflammatory action, which V. S. obviates -

② As in solution excites nausea.

③ Or to immerse the whole body.

④ Improper unless in cases of great emergency - For it would be likely to induce Catarrh or some ^{other} Pneumonic form of inflammation.

as a substitute

See also or Gargle for the same in Dept. urgent cases

See water one of the very best remedies for Chalk Hemoptysis or eating in ② On the other hand these are often exciting causes of Haemoptysis Dr. Chapman says this is as true as Gospel.

As soon as blood is thus detracted we may direct the Common Salt; a tea 357
Spoonful maybe given 5, 10, 15 or 20 minutes according to the urgency of the case:
of its efficacy there can be no doubt, most of the practitioners in this city have
the highest confidence in it; being very prompt in its action and highly suc-
cessful; how it operates is not very intelligible. It is probable that the action
excited in the fauces and trachea is propagated by continuous sympathy
to the Lungs, and these operate as an astringent to the ruptured vessels, noth-
ing being so styptic as the common salt; It is to be given in substance. As co-
operating means Cold should be applied to the thorax, and particularly
to the axilla, as there is no part so sensible as these; clothes dipped in cold
vinegar and water, or in cold water, or ice powdered and put into blad-
dusac to be placed in the arm pits - It has been strongly recommended to wr-
ap the whole body in a sheet wet with cold water ^{or vinegar}. This is a bold practice &
likely to be effectual; it was pursued by the late Gen Bond of this city. I
have not tried it. Darwin has suggested that cold water should be dashed
on the body, or that the whole person be immersed in a cold bath. The prac-
tice might now and then be effectual, but we have every reason to believe th-
at by detuning the force of the circulation to the interior parts, it would
augment the disease; as many of you know it is now very customary to
exhibit the Sacchar. Saturni in all cases of hemorrhage. This is
no new practice; It was long ago used in Europe and this country, it was
thought useful and safe, untill the publication of Sir George Baker and
others, by whom the use of lead was denounced as likely to prove very
injurious and dangerous. a panic terror after this prevailed, and the
Sugar of Lead became entirely neglected. So the late Professor Barton the cried-
it is due of dissipating these groundless fears, and establishing the efficacy
of our medicine - perhaps we have now gone to the contrary extremes and
employ it too promiscuously. That it is generally useful in all hemorrhages,

④ Large doses of the sugar of Lead produce purging like large doses of mercury - but small doses exerts its specific influence, as small doses of mercury - Large doses of sugar of Lead never induces Colic a peritonaeum, but small doses repeated for several days will.

is a point indisputably established, but certain I am that its use is always 359
to be preceded by copious section, when there is a fullness and activity
of the pulse, particularly in hemoptysis. I am convinced that otherwise
it will prove not only useless but mischievous; not one bleeding only will
be sufficient, but it should be repeated as long as there is any increased arter-
ial action, after this the sugar of lead will be attended with a happy
effect - gr.ij or gr.iiij of it with a little opium are to be given every two or three
hours; this however is only applicable to moderate hemorrhages; to expect to
stop a large stream of blood by it is idle and you will often be disappoint-
ed. What would be the effects of a large dose, I know not, but I believe
it would be safe; ^{more effectual} in one case I gave ℥j. it had no bad effects but it did
not stop the hemorrhage - I have known ℥j. accidentally taken by an old
woman, it produced active purging, with some degree of tormina and tenes-
mus, but there was no spasm, no colic, and none of the distressing effects us-
ually attributed to this article; Not a little confidence has been placed
in the Alum; this is certainly a valuable article, is a good astringent
and promises to be useful; I do not however think very highly of it. to pro-
fuse hemorrhage it is totally unsuited; that it may be useful after the vio-
lence of the discharge has been moderated. Copper Nitrate of Potash
Sulph. Zinc ^{soluble} opium where there is great irritation attended w-
ith cough. What shall I say of Digitalis? as I mean to treat very fully
of this article when on the subject of uterine hemorrhage, I shall now make
but two or three remarks. From the influence which digitalis possesses over
the circulation, it has been extolled in all cases of active hemorrhage.
My experience teaches me that it is totally inefficient, as a substitute for the
Lancet, and is not to be trusted in the above cases. after arterial action has
been reduced it is then a precarious remedy; and the dose in which it is
usually exhibited is too small - In a common dose it will act soon enough &

① in the more violent hemorrhages from the lungs

③. Dr. Willis relied upon them in all cases. He cured the late King of England of mania. He found emetics to arrest the flow of blood from the lungs better than any other remedy. I was led to follow the practice.

④ In a common case of Hemoptysis Emetics are useful; or where there is that species of Hemorrhagy called anastomosis — but not where there is a rupture of a large vessel.

in a large dose it will excite vomiting, which to say the least is not a very prudent measure. I think that a great error has been committed in selecting the cases in which it should be employed. The only case to which it is adapted is where there is a hard cough an habitual pain in the sides and breast, quick active pulse, accompanied with a mobility ~~of~~ weakness of the system; Here & Section is inadvisable from a variety of circumstances, and a judicious practitioner, who, in this and all other cases sedulously studies the case of his patient, and varies his remedies accordingly, will recur to the Digitalis, as an important auxiliary. Exhibited under such circumstances, so as just to affect the pulse and keep it within the natural standard, this remedy will sometimes be attended with singular advantage. But in profuse discharges of blood it will be altogether useless if not fatal. It is half a century since Dr. Brian Robinson recommended Emetics in Hemoptysis the practice was not much followed; Cullen tried them, but abandoned them on account of their temerity; No doubt however they will often check hemorrhages; I have known this effected by spontaneous vomiting, and in one case it was stopped by a dose of the Digitalis which excited vomiting. I agree however that it is hazardous and only to be employed where others fail. I speak now of copious hemorrhage, but where it is slight they may be exhibited with safety and utility: They divert the blood from the lungs thus equalizing the circulation, removing the constriction of the skin, calming irritation, lessening the cough, and thus obtaining the beneficial effects resulting from a sea voyage. Condemning Emetics in the early stages of Hemoptysis; I cordially concur with the generality of practitioners, in exhibiting them in small and nauseating doses: perhaps there is no one of this set of remedies but may be useful. The Emetic Tartar is employed with much advantage. I have given it in febrile hemorrhages and I think with manifest utility. To the power of the Vitriolic Solution we have the testimony of Dr. Mosely and Dr. Barton. I have never employed it myself, nor seen it employed by others, but with that kind

The Best purgative is the Oleo Ricini
 Magnesia should be avoided,
 when there is degeneration of the abdominal
 viscera. Blue Mass qrs night & morning.

③ I have employed it so as to act on the kidneys with decided effects.

④ ʒj. dissolved in a quart of water may be given freely in one day—
 Nitric reduces arterial action, febrile excitement, &c. for this pur-
 pose it is useful.

of confidence which results from experience, I can recommend the Spēac. 363
as a most important article. I have employed it many years and in a great
variety of cases, and the more I use it the better I am satisfied of its efficacy. It
should be given so as to excite slight nausea, which should be kept up for 8,
10, or 24 hours; the dose is usually ^{gr. ʒ. ʒss.} gr. ʒ. or gr. ʒss. with gr. ʒ. of opium, exhibited at in-
tervals as may be necessary. It has already been remarked by one that Refrig-
erants, are employed as a means of cure; the whole of the neutral Salts
are included in this term; the most valuable is the Nitre. There is no remedy
more used than this and none which is directed more vaguely and injudicious-
ly. It has no power of directly stopping the bleeding and therefore can be of no use
while this is very copious. But it has a manifest effect, in reducing the pulse, and
there are few articles which are more important as auxiliaries than the nitre.
It is given alone or what is better combined with antimonials in minute doses.

Similar to this in ~~this~~ their virtues are the mineral acids; they are given with
the same views; but I suspect they have more astringency and therefore will op-
erate at once. Whether they have any great astringent power is to me doubtful.
They are however useful, but are not employed to the exclusion of the remedies
already detailed. The ^{most} efficacious to stop hemorrhage is the Sulphuric; 15, 20,
or 30 gtt. of the diluted acid or of the Elixir of Vitriol are to be given every ½ hour
or hour; To these we may add some of the NARCOTICS. I have already
noticed the digitalis, which is usually placed in this class; but besides this,
the Cicuta, Henbane, and Opium have been very strongly recom-
mended. This practice originated in Germany and is now adopted by the En-
glish physicians. The principles on which they act, are to quiet irritation and
to subdue vascular action. The cicuta and the henbane has not been mu-
ch employed. The opium has however been freely resorted to, what would be the
effect of a large dose, in ^{the course of} active hemorrhage, I consider as quite problematical.
That it has in many cases relieved greatly, there can be no doubt. All acknowledge

To obviate Congestion of the Lungs. Cups - Blistering, &c.

④ Dry cupping on the thorax. 30 or 40 applied.

⑤ Breast or back, the first best.

that it is one of the most effectual remedies in uterine hemorrhages. the best ²⁶⁵
practice in such cases is to bring the system of the female under the influence
of a large dose of opium. But the question may be asked is not opium a stim-
ulant and will it not accelerate the already active and disturbed circulation?
But we know that the surgeon after his operations and while the system is excited
always orders his opiates with the happiest effects. and we should remember that
the properties of this article are very peculiar. opium is a stimulant, but this
is so tempered by its other properties, that it often produces effects very different.
Nevertheless, I do not vindicate the use of this article in hemorrhage from
the Lungs; my experience is too narrow to form a decisive opinion; when I have
employed opium in the early stage, it has been when there was great irritation
and cough. all will admit, that it is here called for, although the arterial
action is done away, yet the irritation will be kept up, the cough which is of its-
elf very injurious, continually exciting fresh discharges of blood; by doing away
this irritation by means of opium the discharge will stop. As cooperating with these
remedies, which may be considered as acting on the system generally; there are so-
me local applications. I have already noticed the utility of colds applied
to the thorax especially to the axilla. Where there is a constitutional predisposi-
tion to this evacuation depending on peculiarity of structure, or where there is a
tendency to consumption we should resort to Blisters. Practitioners are not
agreed as to the best place for their application. Some preferring the wrists & ankles,
others contending that they are better to the back of the neck, a majority however
prefer the breast, and as regards myself, I have no doubt that the latter is the
proper position. It is proved that their efficacy in all such affections is in propor-
tion to their proximity to the seat of the disease - to this there is one exception, when
we wish to intercept a train of morbid associations, or destroy the regular concat-
ination of disease, we apply them to the extremities. too much can't be said of the ut-
ility of Blisters. I have more than once known cases where the flow of blood con-
tinued.

③ Barley water - Flax seed tea, &c. drinks cold.

④. Bear in mind the analogy of this hemorrhage to fever.

⑤. Small pulse - sallow skin - bleeding generally small.

(Spts of Turpentine in papaver hemoptysis in the dose 1
tea spoonful. repeated -)

⑦ Cullen speaks highly of Alum alone; my experience is against its use.

⑧ gives according to circumstances.

uninfluenced by all the above remedies immediately arrested by the applica³⁶⁷
tion of a Blister - As I have stated this is the best course to arrest the flow of blood.
But it is necessary to attend to some other circumstances - 1st the moment
we are called to a patient with hemoptoe, we should enjoin complete rest
in bed, with the shoulders somewhat elevated and the lower extremities ex-
tended - 2nd the patient should be kept cool and the room be freely venti-
lated; this is of great importance - 3rd Company should be wholly exclu-
ded and the patient not be allowed to converse - asking a question has fre-
quently induced a profuse discharge - 4th As to diet, in all portions of demul-
cent drinks, especially acidulated should be given, the stomach is never to
be loaded with aliment or drink - 5th The Bowels should be kept in
a soluble state, no advantage is gained by purges. But sometimes instead of
active hemorrhages, we have hemorrhages of a very different nature & character -
these have been termed Passive hemorrhages or those attended with
feeble action. Where this is originally the case, or whether it is the consequence
of the other form, the same course of treatment is to be adopted - no evacuations
are here demanded - After Emetics we must support the tone of the system and
impart strength to the blood vessels - for this TONICS are demanded, and the
Peruvian Bark has been held in high reputation; all confess its utility, some even
to enthusiasm; of these was the Late Dr. Rush - It is commonly given alone, I belie-
ve it is improved by being combined with the chalybeate articles; as the Tinct of
Myrrh, Ferri, Sulph. Ferri, &c. of the efficacy of these last all of you must
not be sufficiently apprised; the Muriated Tr. of Iron is the best, tho' the sulphur is very good.
Some vegetable astringents are employed as the Kino & Catechu, given
alone or with Allum - These I believe are of but little importance, much more ad-
vantage is to be expected from the Mineral Acids, especially the citric and
Sulphuric. If we wish simply to stop the flow of blood, I believe the Sulphuric
is the best; But if there is a tubercular or scrofulous state of the lungs more is to be

③ The pulse P be reduced, and the patient free from febrile symptoms before ~~he~~ be permitted to take exercise.

expected from the Nitric acid. Hereafter I shall ^{of course} that of all remedies for Scrofula and Consumption, this is the best - These are the chief remedies; their employment is to be ~~aided~~ by an habitual attendance to the mode of living, Exercise, I have known exercise frequently to effect cures; Milk, milk, eggs, &c.

Drinks, these should not be stimulating. The Malt Liquors especially Porter, are to be preferred. It is a curious circumstance that the weaker forms of Hemoptysis have been again and again cured by the use of porter as a drink.

It is stated by Dr. Rush that porter always displays great powers over this disease - By pursuing such a course of treatment we shall generally accomplish a cure, but unhappily hemoptysis, especially when dependent on constitutional peculiarities is very apt to recur from the slightest cause -

To obviate this tendency to a relapse we should lay down some prophylactic directions which are vigorously to be observed -

1st To avoid all those causes which can give an impetus to the circulation. Hence, the food should be of the mildest kind, a milk diet is very excellent, together with gentle exercise. The patient should avoid excesses of all kinds whatever, either of mind or body with the greatest care -

2nd The patient should carefully avoid taking cold, nothing is so apt to bring back a hemoptoe as a catarrh, which is generally followed by the most obstinate and serious consequences -

3rd Where there is a predisposition to an attack we should watch the case with the greatest attention, attending to the system generally and particularly to the chest, any pain or activity of the circulation, any increased oppression should be attended to and removed without delay, by small bleeding, by a diet still softer than before, by complete rest, and by cooling laxative medicines, as the neutral salts -

4th Much good may be expected from perpetual Blisters, where there is any local affection they may be applied to the chest, otherwise to the wrists and

- 370 ① Where the patient is very weak we may employ dry cupping—
② Except in tubercular consumption, or a scrofulous diathesis exist—

③. Relieving the stomach.

ankles, in the latter places acting by revulsion.^①

5th. On the same principles a salivation is useful;^② by the impression thus induced action is diverted from the lungs, and in some cases the morbid action may by it be completely supplanted. Mercury is not to be used where tubercles and scrofula are formed in the lungs—

6th. As precautionary means Emetics have been much recommended, they are to be frequently repeated especially where there are tubercles, they have been highly extolled. They divert the blood from the lungs, produce a more equable and regular circulation, relieve the cough and oppression, dislocate the disease and render the system more susceptible to the operation of other remedies. Conduct the treatment as we may, there will occur cases so peculiarly obstinate, that they will resist our best endeavours. Here as a dernier alternative we must advise the removal to a warmer and more equable climate, and if possible the patient should go by sea. It is true this will often fail but we have abundant testimony, that cures are also not unfrequently accomplished by a sea voyage, and by an equable temperate climate; if this were only the case occasionally it would be our duty to recommend it; And as a rule for your professional conduct, you should remember, that precisely as you are embarrassed by the difficulties of the case, your exertions should be invigorated by great efforts, and by close attention cures will frequently be accomplished where every thing wore the most unpromising aspect. Never consider any thing done while any thing remains to do. — Purging early in the case, after the flow of blood has been stopped by Epsom Salts. The bowels are to be kept soluble; Castor oil and magnesia is not proper as it tickles the fauces and excites coughing; but this is obviated by taking Lemonade; after it if the stomach be depraved Rheubarb or the Blue pill given every night will remove it. $\text{grs } \text{v}$. of the blue pill at night and if it does not purge a laxative in the morning—

① Generally venous; tho sometimes arterial

Said to occur sometimes from a varicose state of the Vasa Brevia.
These vessels go from the spleen to the stomach.

⑤ When it is from the liver it is called Melana or Morbus Niger.

⑥. When either from the liver or spleen - moreⁿ fullness in one or other of the hypochondria - fullness of the countenance - disordered stomach, head ache - followed by anasarca -

⑦ - Followed by creps and secches - also cold applications.

Hæmatemesis. Hemorrhage from the Stomach. ①

This has been sometimes confounded with hæmoptysis; but it should be distinguished and this there is no difficulty. When the blood comes from the Stomach it is not preceded or attended by any pulmonary affections; there is no cough, no dyspnoea, no pains and no oppression of any kind; the blood is usually dark, gumous and mixed with the contents of the Stomach; it is also brought up by vomiting. But when from the Lungs there are the several pneumonic symptoms already specified; the blood is of an arterial colour mixed with a frothy mucus, and always brought up by cough or expectoration—

Hæmatemesis is produced by many CAUSES, now and then it is the result of all those circumstances which occasion the other diseases of this class, but it is generally induced by Conception, by blows, and by other injuries to the Stomach, by hard drinking, by violent Emetics, by a cold poisonous matter, by excessive cold water, by ice creams, &c. This is one form of the complaint and may be called primary or idiopathic. But it is more frequently of a secondary or vicarious nature, arising from obstructions of the Liver, Spleen, &c. from suppressions of the hemorrhoidal and menstrual discharges. ②

The treatment in either case must be governed by existing circumstances. If there be considerable vigour and inflammatory action we should bleed and pursue the same course as pointed out for hæmorrhage. ③ When the bleeding is profuse Common Salt, Allum, Solut: of Sacch. Saturni, or what is sometimes effectual gtts. xx. or qss. xxx of the muciated Tinct. of Iron, should be exhibited; as these come in contact with the bleeding vessels, they act more rapidly than in other cases. Cold Drinks are very doubtful especially ice water, how far they may be pushed with prudence I know not. Spts. of Turpentine is the best I have ever tried,

Turpentine is useful where it proceeds by Anastomosis -
 In these cases Emetics are useful - and in these alone -
 A servant girl cured by me - I gave her Tart: Emet: & Ipecac:
 Cases related of Hematemesis being cured by Emetics of
 Ipecac - In Ireland -

I have cured many cases of Hematemesis by Emetics.

After the hemorrhage is checked - Purging becomes necessary.

given in the dose of grs xx. or xxx. every 1/2 hour or hour - Sugar has been used 375

Sometimes there is extreme irritability of the stomach and the vomiting is so violent, that none of the remedies will remain on the stomach; to allay these commotions, we resort to the ordinary means, especially the Blister. This answers a two-fold purpose, it allays the vomiting and is also one the best means of checking the hemorrhage. Some have advised that we should resort to the rectum in these cases for the application of our remedies. Cases may occur in which this may be necessary; I have not however met with any. The hemorrhage being thus suppressed, we are now to enquire whether it arose from visceral congestions or from the suppression of any customary evacuations. Having ascertained the cause, you must resort to the appropriate remedies, which either have been or will hereafter be fully detailed. As intimately connected with this complaint I am to notice a species of hematemesis which occurs to females, at the time of puberty; which is said to be successfully treated by purgatives exhibited freely. It has been held that this discharge is vicarious, and I am inclined to this opinion. Independent of many other arguments my reason for this is, that in all cases which I have seen, there has been a retention or suppression of the menses - Dr. Hamilton however has stated that it proceeds from or is dependent on a constipated state of the bowels, that the feces are always copious and an unnatural colour, consistence and smell.

What is his success compared with the usual mode of treatment, I am not able to determine; But I am sure that in chlorosis, with which this is frequently complicated, purgatives are our most effectual remedies; and I suspect they are in the disease before us.

Regimen - mild or otherwise according to the circumstances of each case -

④ The schioiderian membrane is very vascular & on this account is liable to take on hemorrhage.

⑤ Sometimes dependent on diseases both acute & chronic.

flashes or sparks of fire before the eyes.

Melana. or morbus niger.

Hemorrhage from the liver, preceded by fullness in the hypochondriac region.

I cured a case by giving a teaspoonful every hour or two, of
 Spts: of Turpentine -

Epistaxis, arterial hemorrhage from the nose. @

This species of hemorrhage is liable to occur at the age of puberty, and at the decline of life. After menstruation is established a new drain is opened and it rarely occurs in girls; occurs in persons with short necks and large heads, and is produced by all the causes usually producing hemorrhages, particularly by exposure to heat or cold, ^{cold feet,} by violent exercise, by blows on the nose, by particular postures of the head accelerating the circulation in that part, by ligatures round the neck, &c. These operating on a pre-disposed constitution generally occasion a bleeding from the nostrils. Sometimes there are no premonitory symptoms.

When the patient is plethoric, and there is any febrile action, we have pain in the head, heaviness, vertigo, tinnitus aurium, some heat and itching of the nostrils, sometimes there is a throbbing of the carotid and temporal arteries, a flushed and tumid countenance; there is in some cases a more distinct febrile paroxysm; we have a coldness of the extremities, alternate rigors and heats, and

3780 Sometimes comes on spontaneously.

When of an active nature - v. s. - purging - active diet, &c -

Sometimes of a passive nature - no fullness - pulse not voluminous - sallow complexion - loss of muscular power, &c. Seen often in girls subject to chlorosis. Stop the blood immediately

Dr. Simms after very long experience says he never met with a case of Epistaxis which would not yield to the burnt cork.

A common practice to immerse the head into cold water.

almost universally a constipation of the bowels. ①

379

The Indications are to check the flow of blood; and secondly to do away the tendency to its recurrence. To fulfill the first we have many remedies. The patient should be placed in a cool situation, in an erect or sitting posture, with his ^{head} ~~head~~ ^{thrust} on a little back, cold should then be applied to the nostrils, to the back of the neck, to the axilla, or to the scrotum. This last is a very sensible part, and the application of cold to it is useful in all hemorrhages, especially from the nose. These being ineffectual the nose is to be plugged up with dopsils of lint, dry or dipped in some styptic, as a solution of Allum, of Sugar of Lead, of white vitriol, of the sulphate or muriate of iron, Kino, ^{galls} catechu, &c. or what has again and again succeeded, by wetting a dopsil and dipping it in fine powdered charcoal, flour, magnesia, ^{chalk}, Bic Arm. &c. These remedies being in vain employed; Vena Section is to be resorted to, provided the pulse calls for depletion, after which the head is to be bathed in water made cold by dissolving in it Sal Ammon. or common salt which will often be effectual when all others fail. The powder of Burnt Cork blown into the nostril is lately recommended by Ser. Simon ^{of London}. An immersion into a cold Bath is recommended and not without some effect, he should be kept in until the sedative operation of cold is induced. As a dernier resort, we must try compression by passing a string through the nostrils by means of a probe, to which a sponge is to be fastened and drawn up so as to fill the posterior nares. To obviate the disposition to return we must avoid any exciting cause. It is usually associated with a fullness of the blood vessels, hence the antiphlogistic treatment in every part is to be fully pursued avoiding all excesses and being restricted to a very low diet, all heating and stimulating drinks forbidden. As to the medical treatment V. Section, and when there is great determination to the head, local bleeding by leeches or Cups, are highly important. we should place much confidence in punges to do away the predisposition, they operate on principles well known to you, and they are particularly indicated

now Barks, Chalybeates, &c. &c. Mineral acids. Rubigo Ferri.
the best.

I think it probable that Emetics would be useful in Epistaxis.
They do not determine to the head.

as costiveness so universally prevails; these may be aided by the use of ^{N^o 381}
tre - These being ineffectual, a Blistar is to be applied to the back of the
neck or to the extremities; or some other drain is to be established; this will
uniformly succeed. But the question again arises - Is it proper to remove this hem-
orrhage which is so often of a critical nature? It must occur to every one that
in certain cases where the discharge is critical in ardent fevers or in great deter-
mination to the head, it would be indiscreet to interfere; this is an effort of na-
ture, nor would it be prudent in the full & plethoric, or when there is an apoplectic
tendency, to stop it suddenly; but we should do away the necessity gradually
by the means above specified, and above all by the Blistar or issue to the neck
or extremities -

As a dernier resource Mercury is as to induce a slight typhoid
is said to be useful - we must not use it indiscriminately, as in
scorbutic habits, &c. but the best when there is visceral obstructions.

3 or 4 ounces of blood from the nose, or hemorrhoidal veins
will produce paleness, & a tendency to syncope - Not so when
from the lungs or uterus -

③ In my Therapeutics.

Causes which determine blood to the uterus - dancing, spinning,
excess in venery, constipation, &c.

④ In a healthy condition of the uterus the arteries secrete a
peculiar fluid - but in a diseased condition these vessels
permit the blood to pass through them unchanged. ---

Uterine Hemorrhage.

this is improperly named menorrhagia. *Arterial nature.*

Menstruation is a most important function of the female sex, and one which is subject to several derangements. Each of these has great influence of the health and welfare of the patient; not the least in importance of these is Menorrhagia, or an immoderate flow of the menses; which may arise either from the discharge continuing too long, or recurring too frequently. It is most liable to occur about the period of the ception of the menses. Not every deviation from the usual course is to be considered as a case of Menorrhagia; but only those when there is considerable pain, and debility, and sickness. On a former occasion I have shown that the menses are a genuine secretion of the uterus; nor is it true that all periodical discharges from this organ are of the same nature - my experience indeed is directly the contrary - In every case of profuse discharge, I have always found it to consist of pure coagulable blood - Proper menorrhagia is a disease of very rare occurrence, and seldom demands any treatment, being a natural secretion, the discharge will run on without any injurious consequences, except when interrupted by some violent and rash interference, in which cases the consequences are usually dangerous. All that is necessary in a genuine case of Menorrhagia is to keep the patient at rest in a cool, well ventilated room. Acidulous drinks are to be directed as the Super-Tart. of Potash, so as to keep the bowels open; if there be pain, Anodynes are necessary; but during the interval we should by various impressions endeavour to restore the healthy action of this organ; all the profuse discharges consists of blood, and will accordingly demand our attention; they may occur during the impregnated or unimpregnated state of the uterus, & usually they follow delivery. The treatment in these cases you will learn from another source, & I will content myself with a general remark; when an alarming hemorrhage takes

Atterine Alcedinidae

③ If necessary a more active article is to be used.

place during gestation prior to delivery the child is to be removed as speedily 385
as possible, and allow the uterus to contract on the mouths of the bleeding vessels,
without this no medicine will be of the slightest service - I am now to speak of
Periodical Hemorrhage from the uterus - This is sometimes copious, de-
manding great attention and very rigorous measures -

Causes. Whatever produces a flow of blood to the uterus, costiveness, violent
exercise, excess in venery, polypus, cancer of the uterus, &c.

It may be connected with an inflammatory or with a debilitated condition
of the system, when attended by headache, dyspnea, pain in the loins, and by a
full corded pulse; there can be no hesitation in employing the directly depleting
remedies - The Treatment, here is to be pursued on the usual principles; to sub-
due the action of the blood vessels is the leading indication, and for this the
Lancet is absolutely necessary. To the same end the bowels are to be opened by the
Saline Laxatives ³ - a state of repose is to be enjoined and the whole antiph-
logistic treatment is to be vigorously employed. After this certain Astring-
ents may be employed; but certainly their use is always to be preceded by
copious evacuations, as V. Section, &c. It is a Rule applicable to this form
of uterine hemorrhage from whatever cause it may be induced; that when V.
S. is omitted or too cautiously employed, all our remedies are inefficient
or mischievous - at the head of astringents stands Sugar of Lead.

It certainly possesses very extraordinary powers, all practitioners concur in this
opinion. If ever says Dr. Heberden "any medicine deserved the name of Specific,
it is the sugar of lead in uterine hemorrhages". I don't go so far, but I am pre-
pared to pass on it a very high Eulogium; to be successful however it must be bol-
dly exhibited - certainly gr.ij. of it with gr.℥ of Opium every hour or two can have
no more effect than pure water. No good can be expected unless gr.℥ be given
every half hour. It is never of the least benefit in small doses. I have given 30
or 40 and even 50 grains, with no bad effects, the more I use it, the more I believe

I would not use Emetics when the hemorrhage was dependent on Rupture, but under other circumstances, I would give them a trial --

that very erroneous notions have been maintained of this article. the only 387
bad effect is sometimes an irritation of the bowels as frequently produced by a
stimulating medicines. It is already known to you that the remedies which have
obtained great reputation Specacuanha is one of the most important, ma-
ny respectable authorities bear testimony of its efficacy in hemoptysis; but
it is in uterine hemorrhage that it displays its best powers; here it is quite
equal to the Sacch. Saturni, and is sometimes even to be preferred. To do good
it must only be given in nauseating doses; when it induces vomiting it is commonly
mischievous. But I would not here be understood as meaning that vomiting
is uniformly injurious in uterine hemorrhage. more than once have I seen the flow
of blood checked by the coming on of spontaneous vomiting; but whether when in-
duced by art, it would be equally salutary I know not. It often happens that
the remedies resorted to by nature are salutary, while all imitations of them
by art are of doubtful efficacy. The effects of Specac^a are sometimes astonish-
ing. I have often remarked that as soon as nausea was induced the hemorrhage
has stopped. How it acts in so striking a manner is doubtful. It is not owing
to its astringency as is sometimes maintained; as other articles infinitely
more styptic are attended by no salutary operations. Mr. Murray the author
of the has attributed it to an antispasmodic power of this article; in
this he has been confirmed by several subsequent writers; but allowing that Spe-
cac^a is antispasmodic, which is conceding very much; its operation can't be
explained in this way as those articles which are more unequivocally so are of
no service whatever. neither of these explanations are satisfactory; some have
imagined it operated by inducing nausea and thus reduces arterial action;
but would not the same effects be produced by all nauseating articles, as
tobacco, Digitalis, Squills, &c. which possess this power in a greater degree than
the Specacuanha. Its mode of action is altogether conjectural, and is prob-
ably not to be explained. It is to be given in the dose of from $\frac{1}{2}$ gr. to grssj. with

The first of these is the fact that the
 second of these is the fact that the
 third of these is the fact that the
 fourth of these is the fact that the
 fifth of these is the fact that the
 sixth of these is the fact that the
 seventh of these is the fact that the
 eighth of these is the fact that the
 ninth of these is the fact that the
 tenth of these is the fact that the
 eleventh of these is the fact that the
 twelfth of these is the fact that the
 thirteenth of these is the fact that the
 fourteenth of these is the fact that the
 fifteenth of these is the fact that the
 sixteenth of these is the fact that the
 seventeenth of these is the fact that the
 eighteenth of these is the fact that the
 nineteenth of these is the fact that the
 twentieth of these is the fact that the
 twenty-first of these is the fact that the
 twenty-second of these is the fact that the
 twenty-third of these is the fact that the
 twenty-fourth of these is the fact that the
 twenty-fifth of these is the fact that the
 twenty-sixth of these is the fact that the
 twenty-seventh of these is the fact that the
 twenty-eighth of these is the fact that the
 twenty-ninth of these is the fact that the
 thirtieth of these is the fact that the
 thirty-first of these is the fact that the
 thirty-second of these is the fact that the
 thirty-third of these is the fact that the
 thirty-fourth of these is the fact that the
 thirty-fifth of these is the fact that the
 thirty-sixth of these is the fact that the
 thirty-seventh of these is the fact that the
 thirty-eighth of these is the fact that the
 thirty-ninth of these is the fact that the
 fortieth of these is the fact that the
 forty-first of these is the fact that the
 forty-second of these is the fact that the
 forty-third of these is the fact that the
 forty-fourth of these is the fact that the
 forty-fifth of these is the fact that the
 forty-sixth of these is the fact that the
 forty-seventh of these is the fact that the
 forty-eighth of these is the fact that the
 forty-ninth of these is the fact that the
 fiftieth of these is the fact that the
 fifty-first of these is the fact that the
 fifty-second of these is the fact that the
 fifty-third of these is the fact that the
 fifty-fourth of these is the fact that the
 fifty-fifth of these is the fact that the
 fifty-sixth of these is the fact that the
 fifty-seventh of these is the fact that the
 fifty-eighth of these is the fact that the
 fifty-ninth of these is the fact that the
 sixtieth of these is the fact that the
 sixty-first of these is the fact that the
 sixty-second of these is the fact that the
 sixty-third of these is the fact that the
 sixty-fourth of these is the fact that the
 sixty-fifth of these is the fact that the
 sixty-sixth of these is the fact that the
 sixty-seventh of these is the fact that the
 sixty-eighth of these is the fact that the
 sixty-ninth of these is the fact that the
 seventieth of these is the fact that the
 seventy-first of these is the fact that the
 seventy-second of these is the fact that the
 seventy-third of these is the fact that the
 seventy-fourth of these is the fact that the
 seventy-fifth of these is the fact that the
 seventy-sixth of these is the fact that the
 seventy-seventh of these is the fact that the
 seventy-eighth of these is the fact that the
 seventy-ninth of these is the fact that the
 eightieth of these is the fact that the
 eighty-first of these is the fact that the
 eighty-second of these is the fact that the
 eighty-third of these is the fact that the
 eighty-fourth of these is the fact that the
 eighty-fifth of these is the fact that the
 eighty-sixth of these is the fact that the
 eighty-seventh of these is the fact that the
 eighty-eighth of these is the fact that the
 eighty-ninth of these is the fact that the
 ninetieth of these is the fact that the
 ninety-first of these is the fact that the
 ninety-second of these is the fact that the
 ninety-third of these is the fact that the
 ninety-fourth of these is the fact that the
 ninety-fifth of these is the fact that the
 ninety-sixth of these is the fact that the
 ninety-seventh of these is the fact that the
 ninety-eighth of these is the fact that the
 ninety-ninth of these is the fact that the
 hundredth of these is the fact that the

gr^{ss}. of opium every one, two or three hours - As in hemoptysis the Mine 389
acids have also been employed in this case. There can be no doubt of their
power, but this is comparatively feeble and is never to be trusted; where the hem-
orrhage is copious and alarming. When it is moderate they may be used with
advantage. The Best is the Sulphuric Liberally given 40 or 50 qts. every
1/2 hour, or hour. As might be expected the Alum has not been overlooked;
it was early employed by Van Helmont, who, states that, he scarcely can fail
in checking the flow of blood by means of the Alum. Its reputation after-
wards was very great but it is now in some measure supplanted by the Spicae.
Sugar of Lead, &c. Dose of Alum 4 or 5 grs. with 1/2 gr. of opium 3 or 4 times a
day. Not a little has been said of the great power of Digitalis in all cases
of hemorrhage. It was originally employed in the early stages as a substitute for
the Lancet, and has under these circumstances been strongly recommended by
Cunee, Drake, Ferriar, &c. But there is no substitute for the Lancet. As will
might you attempt to arrest a mill-race by pouring oil on the surface, as to check
the active flow of blood from the arteries by the exhibition of the digitalis.

When uterine hemorrhage is attended by copious streams of blood, nothing is
to be confided in but V. S. copiously employed. nothing else will answer
and if neglected the patient will be placed in the greatest jeopardy. Digitalis
is much on the same footing as the above mentioned articles, after action is re-
duced we may recur to it, when the discharge is not copious; but when a large
vessel is opened we should employ it with caution as from my experience I am
induced to believe that the digitalis debilitates and relaxes the vessels, in-
creasing rather than diminishing their action being inferior to the Sugar of Lead,
Spicae or mineral acids. The practice now most prevalent in Euro-
pe is to check the evacuation by the free employment of Opium. I will not
repeat what I have already said of this article. Undoubtedly the testimony

Where you find much sperm, &c. in the uterus spin is
very useful.

③ I have never employed them in either way.

of its utility in these cases is very great, and it has been too generally & 991
indiscriminately employed. It appears to me that tried in the early stage
of active hemorrhage, it would be detrimental. In some cases there ~~would~~
is much ~~irritation~~ ^{irritation} and spasm of the uterus, by which, the discharge is kept up in
defiance of the usual remedies. Hereafter copious & Section, opium is sig-
nally useful, acting on a principle intelligible to all of you, by removing
the spasm &c. These are the more prominent remedies, which act through
the system, but in addition to them there are some topical applications,
of great advantage, the best is cold properly applied, the common practice
is to dip clothes in cold water and apply them to the pudenda and to the ab-
domen, also a lump of ice is sometimes inserted into the vagina, or this
canal is filled with clothes wrung out of cold water. The most effectual
mode, in which I have ever employed cold where the hemorrhage is profuse
is to pour cold water from a height in a small stream upon the naked ab-
domen. This has succeeded in cases apparently desperate by causing a con-
traction of the vessels. Advantage is said also to be obtained by certain as-
tringent articles as Alum, Sugar of Lead, Sulph. Zinc, &c. in solution
injected into the vagina, some prefer the ^{rectum} Dr. Sowerby is of this opinion.
of their efficacy, I have no experience. I have sometimes gained some
advantage from large quantities of Laudanum employed as an enema.
But this was where there was great irritation and spasmodic action. These
hemorrhages although generally active and inflammatory, have sometimes
a different form and are called passive or atonic hemorrhages. These are
regulated by the same principles and demand the same treatment as hemop-
tysis under the same circumstances. Sometimes in old women and espe-
cially about the period of the cessation of the catamenia, there are cases
of a very different kind: The discharge occurs every 4, 5 or 10 days, is
sometimes moderate but sometimes very copious; this is always a source

- ② to be treated by a combination of Arsenic and exita, also by Opium &c. v.s. small and repeated.

In cases of debility all the means employed in the active are demanded except v.s. It is here Alum is so useful.

Given internally - infusion of P. Bark in hemis water.
chalybeates - Mineral acids.

Much pain in the loins, &c. - Cupping - Iodine to the parts, &c. - Salivation to complete the cure sometimes.

of uneasiness and sometimes of danger. now and then it depends on 393
debility and topical relaxation, but more generally on a cancerous
or scirrhous state of the uterine, ^{or} on a tendency to this complaint;
It has been called to an hemoptoe of the uterus or a consumption
of that organ. Little can be done in such instances but to keep the
patient on a low, cooling diet, particularly on a milk diet. Where
this fails a Salivation is recommended, and is sometimes ben-
eficial.

In Hemoptoe of the uterus. by examination per vag: we
have a discharge - a thickening of the os uteri, &c -
Small & repeated bleeding - alterative course of mercury -

④ Dr. Huhn treated piles entirely by Balsam copaiva, Lpts. Turpentine.

⑤ Ham water - vapour. -

Hemorrhoids, or Piles.

395

This although not a dangerous disease, is a very troublesome one; they are commonly called piles, and consist in tumours about the anus, then called Blind piles: when there is a discharge of blood they are then called Bleeding piles. there are many cases recorded of persons bleeding profusely from these tumours, and we are told by an Italian writer of a person who lost ~~his life~~ a pint of blood daily for years.

The Causes of piles are several. ^{General & local} Plethora, costiveness, purging with those articles which act principally on the rectum, riding on horseback, or whatever prevents the blood from returning through the hemorrhoidal veins as pregnancy, &c.

An attack of piles is preceded by a sense of weight and fullness in the belly, loins, &c. flatulency and nausea, giddiness, and severe pain attending going to stool — pain & throbbing in the tumours.

Treatment. In plethoric persons B. Section is evidently demanded, after which gentle purges, recumbent position, &c. Internal Remedies as Balsam Copaiva and Spts. of Turpentine in the doses of 20 or 30 gtt. 3, 4 or 5 times a day. The Topical Remedies are Leeches, also puncturing the tumours with a lancet: this last however requires a great deal of discrimination to be employed for it may be a varicose state of the veins, or an ecchymosis in the cellular texture of the part. — There are other topical applications and one of the best is the following.

R. St ops Lead. — ℥ij.

Spermaceti — ℥ij.

Goulard's Ext. — ℥j.

Laudanum — ℥ij. — m. make a Liniment.

A Lotion of Lead water ℥viij. and Laud: ℥j. — Bread and milk poultice with the surface covered with Lead water and Laudanum. Apply to them

- ① Rest is of great importance.
- ② (the dispensatory)

Soft Extremities of Cicuta; Embrocations of the Stamonium. An anodyne ^{em} 394
mata, &c. Suppositories of opium. After the inflammatory stage has abated,
Gall ointment; Tar ointment, riding on horse back. To check the hemorrh-
age when excessive we use astringent injections if intractable a tent to com-
press the bleeding vessels. They are however sometimes critical and cannot
be suppressed without danger, and if we stop them too soon we must apply
leeches, give aloes, purges, &c. to restore the bleeding again. Humours which
do not bleed also sometimes are serviceable.

Bleeding piles are of great relief to visceral obstructions as the ^{liver} &c. ^{as cerebral obstruction}
Neglected piles may cause fistula in ano, Dyspepsia, headache, &c. pale
& sallow complexion, &c. ^{fatid breath} ^{expiration} ^{we} must then resort to the surgical
operation, when other remedies fail. - Fistula in ano often ends in consump-
tion. - I have known cherry stones lodged in the rectum to induce Tet-
anus, &c. - Ascarides have caused all the claps of neurons.

② as Turpentine. Fr. of *Cantharides*.

③ depositing coagula of blood.

④ Gum arab: Flax seed tea, &c.

⑤ liberally employed, particularly as Enema.

Infusion of Rose leaves I have seen cure cases, after other remedies had failed —

Hematuria or passing of bloody urine; and this may arise from violence done to the kidneys, by blows, falls, leaping, hard riding on horse-back, calculi; by stimulating diuities, by a worm in the ureter, and is sometimes an attendant on fever. Old people are attacked with it being generally the effect of a debauched habit.

Symptoms ^{acute & dull} pain in the back extending down to the testicle, difficulty of making water, high coloured urine, retching and sometimes vomiting. When the attack is brought on by violence or where the inflammation is high, V. Section, Cups, Blisters, Purges, ^{Emetics} ~~also~~ demulcent drinks, low diet, &c. when it proceeds from a calculus remove it or when this is not practicable we must palliate the symptoms by the warm bath, opium, &c. I have also derived advantage from a decoction of peach leaves, the virtue of which is in all probability owing to the prussic acid which they contain when it arises from debility of the vessels, Emetics followed by the exhibition of Ipecacuanha and a blister to the lumbar region. Emetics in these cases are however far superior to any thing else. It is contended by some practitioners that blisters should not be applied over the loins, saying they are dangerous when in that situation, but they undoubtedly are as safe when applied to the lumbar region as when applied to the thorax in Pleurisy, as I am well convinced they do not cause irritation as has been supposed. When Hematuria proceeds from ulceration the cause is hopeless.

The Balsami & Serebinthinace articles - also Uva Ursi sometimes useful.

Inflamⁿ. as regards surgery and the Practice of Physick - I con-
sider the latter

① these four constitute inflamⁿ.

② in both the serous & fibrous tissues there is no swelling.

Every deviation from health may be attended with pain - as in
spasmⁿ & tension, &c. Colic. suppression of urine -

③ If a man has spasm it is relieved by pressure.

④ sudden expiration of pain - haggard countenance, delirium &c.

⑤ 30 years ago C. Smith divided the tissues.

Bichat divides them into Mucous, serous and fibrous.

Diseases of the Digestive System.

Inflammation in General

401

Inflammation is modified by two circumstances, viz. Cause and Place in which it is seated. The causes of inflammation are various and diversified: sudden fluctuations of heat and cold, though there be no excess; miasmata; virus which acts directly, as the matter of smallpox; chemical and mechanical irritants, as poisons, &c. &c. When a part is affected with inflammation, there is heat, pain, redness, and swelling, but these are very equivocal except in Phlegmonous inflammation; Redness may arise from other causes, as Gout, Innocence, &c. Heat may arise from fever, exercise, &c. Swelling, the most painful inflammation, may be without it, as of the Tendons, &c. Pain may arise from fatigue, &c. But the combination of these forms the external symptoms of some inflammations. The symptoms of Internal inflammation are very indefinite, It is known by the pulse, degree & kind of fever, disturbance of the natural functions, appearance of the blood, and local pains particularly by prepare distinguishing it from spasm. The inflammatory process once established it Terminates either by Resolution, ulceration, Suppuration, Gangrene, or Effusion. When it does not terminate by resolution, Suppuration comes on, known by a sense of weight and fullness, ^{throbbing} ~~exquisite~~ pain, quick and irritable pulse, chills, rigors, &c. But it sometimes runs to gangrene or Sp-
~~hectus~~ ^{hectus}, here there is a sinking pulse, cold extremities, debility, &c. It may terminate in effusion as Dropsy - Serum is thrown out - In the lungs, co-
agulable lymph ^{forming adhesions} ad ventitious membrane.

Diseased action of every kind, including inflammation is modified by two circumstances. The part in which it is located and the cause by which it is excited. Every part of our bodies is composed of 6 elementary structures called tissues. 1st the cutaneous, 2^d the Germoid; 3^d the Cellular; 4th Mucous; 5th the Serous; 6th Fibrous; 6th New ones -
1st. The cellular means the general tissue strictly so called and also the paren-
hyma

The first step in a boil is to form a membrane by adhesion in-
flamⁿ, into wh^{ch} pus is secreted -

③ Bichat makes them one membrane -

④ encrusted when there is a typhoid condition of the system.

⑤ as in Gonorrhoea.

of the lungs; this is the seat of common or plegmonous inflammation; there is ⁴¹⁰³ inflammation, throbbing pain, tendency to circumscribe and ultimately to form an abscess, as in peripneumony, boil, Cynanche parotidea, &c.

2nd Dermoid. This ~~seem~~ in a few instances seems subject to inflammation resembling the cellular, as small pox pustules, &c. yet general inflammation of the skin is marked by its peculiarities and is termed Erysipelatous: though this resembles the cellular in the heat, pain, &c. yet it has a tendency to diffuse itself and form vesicles instead of abscesses, as the inflammation of measles, scarlatina, variolous and vaccine pustules. Poliotus, Burns, Scalds, &c. are all examples and ^{also} have their seat in the Rete mucosum.

3rd The Mucous. Between this and the dermoid there is a near resemblance and by some they are thought to be the same. 1st Both are protected by an inorganic covering, the Epidermis, the skin, and the Chlamy, the mucous.

2nd The capillary system has the same arrangement and is the source of all the excretions which is peculiar to the skin. The most striking resemblance is the reciprocal convertability; some worms, &c. may be turned inside out and live; the mucous membrane becoming skin, and vice versa. The same transmutations occur in the human body, as in prolapsus vagina, and, anus. and skin kept moist and from the external air becomes like a mucous membrane, both perform the office of exhalation; the only difference mentioned by Physiologists is in the colour; the mucous

The Dermoid

The mucous is found in the various passages of the body, affording protection to the Alimentary canal, ^{primæ viæ, foecæ, ætius} Larynx, vagina, urethra; and the inflammation is known by the absence of acute pain, or throbbing, ^{fever, with a} weak soft pulse, furred tongue particularly if the primæ viæ is affected; diminutive fever, generally inflammation affects merely a change of the secretions, making it thin, acid, puriform, and if violent, purulent. Inflammation of the different parts vary, as the vagina, urethra always have a tendency to form puffs; alimentary canal

404 as we see in dysentery -

③. Synovial membranes.

6th nervous tissue - nerves - ^{the theca or covering} spinal marrow - and probably
the tunic arachnoides - acute pain - Tooth ache - Tic Do-
lorous - Phrenitis, &c. - Some sorts of headache -

Terminates in effusion of a thin, serous fluid - When in the
pulp of the nerve apt to terminate in suppuration. ---

particularly the bowels to ulcerate without forming pus. The Larynx throws out lymph 105
ph and an adontitious membrane is formed as in Croup. The Trachea is disposed
to throw out vitiated mucus and after becoming pus. The Bronchia generally disposed
to throw out watery discharges and finally serum as in Bronchitis: in all these the
thickening of the membrane is common. It is now known that the mucous and serous
tissues may secrete pus without derangement of structure.

4th The Serous, as the pleura, pericardium, peritoneum, ~~and others~~ ^{Tunica vaginalis}; It is dis-
tinguished by compactness and transparency; It is generally not very sensible, but
very much so when inflamed; severe, lancinating pain, pulse always hard, sometimes
full and small, corded ^{or wiry} and accelerated, white tongue untill a typhoid condition
supervenes, without the loss of strength; this eventuates in the ~~extension of~~ ^{action of} ~~congestion~~ ^{congestion} lymph
forming adhesions, apt to produce effusions causing Dropsy, &c.

5th Fibrous. as the dura mater, periosteum, tendinous and aponeurotic expansion,
capsular Ligament, nearly the whole subservient to articulation, and muscular texture -
very compact and solid neither secretes nor exhales, as Arthritic and Rheumatic inf-
lammations. Some of the symptoms are an active pulse, much febrile action, acute pain
and it never terminates in abscess, adhesions or gangrene; if protracted a long
time it throws out a gelatinous exudation or deposition of earthy or saline mat-
ter; it is slow in its progress and very liable to metastasis. But inflammation is not
confined to one tissue, more may be implicated and we have different phenomena
and different ^{and more ambiguous} diagnosis as Dysentary. Here at first there is only inflammation
of the mucous coat of the bowels, causing slight uneasiness, but as soon as the fibrous
tissue becomes involved there is tormina & tenesmus; sometimes the peritoneal coat is
implicated and there is Lancinating pain peculiar to the serous tissue.

Inflammatory action may also vary, 1st from peculiarity of Diathesis, 2nd from peculiarity
of cause. every thing acting on the living body has a peculiarity of a specific action and a
specific effect; hence some difference in the process. But it still retains some peculiar
characteristics of its own tissue. Gonorrhoea and powerful injections produce pur-
ulent

③ scarcely any two persons are similar in their "modus operandi" according to Orfila —

"ubi stimulus, sibi fluxus"

discharges preceded by inflammation, but although the action is apparently 407
the same, experience shows them not so. The action of virus is specific, "sui generis."
Inflammation from cold and pertussis both affect the lungs, ^{suppur & effusate} there is cough ^{in acute} &c. Still the
mode of action is materially different. The cuticular surface being inflamed, as in
scarlatina, measles, erysipelas, &c. There is such a similarity at first particularly,
that they may be confounded and still ~~a~~ manifest difference exists. The same may
be said of poisons, all inflame the mucous coat of the stomach, and still they are
specifically different. ③

Proximate cause of Inflammation. How is inflammation induced?
All the theories but one suppose that the blood-vessels are alone concerned. I think
the primary step is nervous irritation, first involving in some degree the great vessels
of the circulation and in others the capillary vessels where it is always ultimately
seated. Thus when any substance capable of producing irritation is applied to a
part, there will be pain, &c. which effect being transmitted ^{or sensation} to the brain ^{commencing and}
^{retransmitted to the original part} we have that state denominated nervous irritation, which is the commencement of in-
flammation. inflammation and irritation are apt to be confounded. by this irritation
we mean a morbid disturbance ^{or excitement} of the nervous system. and by inflammation a
similar disturbance of the blood-vessels produced by it. Nervous irritation may
exist without inflammation; but inflammation never without nervous irritation,
the one is the cause the other the effect. This irritation may exist for a length of
time and cause tetanus; Generally the nervous impulse is extended to the blood-
vessels and reaction takes place and causes inflammation. But if reaction is ^{feeble or}
incomplete the deep seated vessels are loaded and we have congestion. Sometimes
there is a preponderance of irritation ^{then we have nervous fever,} combined with congestion.

The cause may so act on the nerves of a part as to effect such a condition that there
may be an afflux of blood to that part producing redness ^{preternatural fullness} &c. It is an ancient
aphorism that "wherever there is inflammation there is an afflux of blood to the
part". This is finely illustrated by ophthalmia; thus a grain of sand introduced

408 ① The same is observed in incised wounds -

Inflamⁿ is an effort of the blood vessels to relieve themselves from their loaded condition -

3 Stages of inflamⁿ - 1st Nervous irritation, inviting an afflux of blood to the part - 2nd Congestion - 3rd Inflammatory action, which is the ^{consequence} ~~cause~~ of congestion

② either direct or indirect - whether induced by heat - Cold - Chemical or mechanical irritability.

③ Tie a Ligature round the limb and we have heat, swelling, redness, & finally pain, merely by the obstruction of the circulation

into the eye irritates and there is an immediate afflux of blood to the part. ① 409

Bichat observed the same on opening the abdomen of animals. Thus he opened them and irritated the peritoneum with the point of a knife, and there was an immediate flow of blood to the part irritated. But there is often a bloodshot eye without inflammation; here the investigations of physiologists seem to stop leaving the rest among the mysteries of the animal economy, and I think that in the spirit of candour we can do no more than acknowledge our ignorance. It is universally agreed that in inflammation there is topical congestion without which it cannot exist. By Boerhaave it is maintained that in the congestions, the mouths of the extreme vessels are obstructed either by "lentor" or "error loci". Cullen admitting the fact of inflammation obstruction, thought it owing to spasm of the capillaries, and the "*vix medicatrix natura*" in endeavouring to overcome the obstructions and restore the parts brought on inflammation.

Whether the vessels are increased or diminished in action is a question not yet decided; I am inclined to adopt the latter opinion; I feel at the same time the weight of opinion which is urged against me. It may be considered as a law to which there is no exception that when a part labours under a disease it becomes debilitated; or that its vital powers are so much impaired that it performs its functions imperfectly. For example the bowels in their natural state remove their contents readily, but when inflamed there is an accumulation of faecal matter, and we have constipation, as in Enteritis. Some of the blood vessels if unduly distended their power is crippled and languid, and may be said to be in a state of constipation. The same may be observed of the cause, symptoms and treatment of inflammation. 1st The cause produces debility; though it at first stimulates, it leaves the part debilitated. Congestion being requisite to inflammation, how can this occur if there be increased impetus? 2nd The phenomena of redness, heat, &c. is more explicable on the supposition of debility, than the reverse. 3rd The phenomena of debility operate by overcoming the congested

- ② Stimulating Liniments - Frictions, &c. operate by stimulating the vessels to increased action, & they enable them to empty themselves of the great quantity of blood ~~which~~ they contain.
- ③ The Equilibrium between the capillaries & large vessels are destroyed.

By applying rob: alk: & alcohol to the web of frogs foot - the ^{action of the} vessels were increased; and after a time were weakened in their action, by indirect debility.

condition, by depleting or stimulating, of a local or general nature. As V.S. All
laps, Leeches, Purges, &c. which afford relief by removing the engorged blood vessels,
and permitting them to discharge their functions. Blisters have the same effect
but in a different way; they stimulate the vessels to an invigorated effort, by
which the blood is forced out (see Phillips & Hastings Experiments). Inflammation
is a debilitated state of the capillaries. In the ear of a hare the vessels were seen to
enlarge, the blood to move very slowly, a stimulus being applied it moved on more
rapidly, and excitability being exhausted it moved more languidly.
Thompson comes to these conclusions; viz. 1st that the velocity is not always dim-
inished, often increased, particularly in the commencement; and the increase may
continue in the capillary vessels. This I think occurs more or less in active inflam-
2nd A diminished velocity may take place in the inflamed capillaries, at
the very commencement, and may continue during it. 3rd That this diminished
action of the capillaries is more frequent in the after state, than in the com-
mencement in strong, healthy persons. If this be true it is sometimes attended with
increased sometimes diminished action, and here neither should enter into the def-
inition of inflammation. Though these may appear to militate against my statem-
ents, yet it is not so - if a stimulant be applied moderately it increases but if in
excess or too long continued, the vessels are thrown into such a condition that the
circulation becomes more sluggish and congestion occurs. it follows that in-
flammation is not a simple act, but a highly complicated process. The first
step is nervous irritation inviting an afflux of blood. 2nd Confirmed conges-
tion of itself is not inflammation as it may exist without it, it stimulates the ves-
sels to carry forwards the excess of blood, if it succeeds we have resolution. But
if this power be too feeble, nature resorts to hemorrhage or effusion of serum, or ex-
travasation of coagulable lymph, by which the vessels are emptied. These powers failing
nature endows the vessels of the part with the faculty of secretion and we have pus.
Sometimes in violent attacks nature is so overwhelmed that we have little or nothing

② The cellular, serous and serous tissues contain this kind of blood-

④ Morgagni tells us the same as regards Pleurisy.

⑤ According to Bichat-

done by her, and the part dies, and here we have mortification or gangrene - 413
The capillaries are always the seat of inflammation. (Capillaries means vessels between
the ~~extremities~~ ^{main} of arteries and veins; spreading like a network over the whole system, ex-
tending into every part, having their own peculiar laws, offices, &c. of secretion, nutri-
tion, exhalation, ^{excretion} &c. converting arterial into venous blood, and evolving animal
temperature. divided into two parts, the one carrying red blood, as to the muscles, spleen
&c. the other white, greyish, or serous blood, as bones, cartilages, ligaments & hair, &
also found in the cellular, dumoid, serous and many glands: though it is pel-
lucid it may be injected with red matter, as the conjunctiva, skin, &c.)

Common inflammation is located in the red vessels, but inflammation or a pro-
cess equivalent to it may occur in the pellucid vessels, and go through the regular
stages. often in parts where there may be both vessels, or in pellucid vessels having
red blood therein being "Error Locci". Broussais calls this the red, serous and mixed
inflammation. we are not to be led astray in our estimate by the observance of the
usual appearances after dissection. Broussais, Bichat, & others could find
no signs of inflammation in persons who had died with all the symptoms of
peritoneal inflammation. This is more evident in white swelling. Schirrous of
the glands run through the process without the appearances of inflammation,
until the serous vessels become enlarged, and admit the red blood, as in the du-
moid - persons even labouring under red inflammation, the appearances may
cease at death the red blood being withdrawn as in Erysipelas, or scarlatina; also
often in the serous tissue. How do we ascertain that there has been inflammation?
By the consequences or effects of it, the part loses its colour and becomes purple,
thickens from exudation, changes its structure, also there is often found exu-
dation of coagulable lymph or bloody sanies.

Though the general symptoms be wanting, still the treatment is the same as in the
red or ordinary inflammation. The practice is regulated by the pain, the pul-
se, &c. The leading principles of the treatment of the serous is, prompt and free

414^o as in white swelling of the knee - Schirrus, &c. - demands depletion to a greater extent than the other tumors -

② or are counteragents.

③ As Eau Medicinale - Colchicum - Peruv. Bark, &c.

⑤ Chronic may be primary or may follow acute - Broussais thinks that primary inflammation is seated in the serous portion of the capillaries, while others suppose it depends on that state of the vessels which is not sufficiently induced to occasion resolution - yet not sufficiently active to form an abscess. The latter objectionable - The former probably correct.

⑥ Sometimes we may cure it by counteragents - yet it is hazardous; and when not successful aggravates the disease.

use of the Lancet &c. In the mucous such remedies as seem to have a 415
specific action as the Balsams, Serebinthinates, as in inflammation in Gonorr-
hea and papuli fluor albas. - Fibrous or Dermoid, Erysipelous, comparatively
little depletion; also Gout & Rheumatism yield to specific remedies. 2nd The cause
of inflammation is to be attended to, thus cold produces an inflammation contrary to that
produced by poisons. A direct inflammation is best treated by depletion, &c. whilst
that produced by poisons is best treated by Antidotes and Counteragents. Scrophula
and other disease of the Cachectic condition always managed with reference
to the cause. 3rd The stage of inflammation is also to be considered, thus we may have
an acute ~~and acute~~ chronic inflammation; and they will require different treatment, ab-
scesses are sometimes formed by chronic inflamⁿ, also Schirrhous, carbuncle, thick-
ness of the parts, &c. In some instances chronic inflamⁿ is attended by constitutional
symptoms, local pain especially when compressed. Tongue furred or clean.

In acute Inflamⁿ The Treatment consists in reducing vascular action & calm-
ing irritation, by depletion, ^{v. s.} purging, vomiting, Low diet, repose, judicious use
of opiates. In the 2nd Diaphoretics, ^{per use of opiates} &c. and such means as act on the capillaries
to relieve topical congestion, as Cupping, Leeching, Cold applications, Blisters. &c.

In Chronic Inflamⁿ The Remedies are the same though not so active, those fail-
ing we have recourse to alteratives, as mercury. In original chronic the treatment
is more active, as general ^{local} bleeding, ^{purging} Blisters, &c. but conduct it as we may it will
always be found very obstinate and in many instances intractable to all our ef-
forts. We must pay particular attention to the tissue in which it is seated, as dif-
ferent tissues require different modes of treatment.

I now proceed to the diseases of the Alimentary canal; the intimate connection which subsists between this tube and the body give rise to numerous diseases, which are very important, and which demand particular attention. The first which I shall mention are those of the stomach. I have several times already noticed the importance of this organ in the animal economy; It indeed holds the first rank not excepting the brain itself, numerous are the proofs of this fact. Life can exist without any other organ, but not without the stomach. Fetuses of mature age have been born without the brain, without a spinal marrow, without Lungs, Liver, Kidnies, uterus or heart; but none without the stomach. Many cases are also recorded of the absence of the spinal marrow, some of these will be found detailed in Haller's work; and one very important one has been lately published by Mr. B of London: This in some measure contradicts the late experiments of Le Gallois & Mr. Brodie.

In all the various gradations of animal life, we find no creature however minute without a stomach. On account of the wonderful and multiplied connections between this organ & the system it is most liable to derange the healthy functions of the body, it is the medium through which our remedies act; It regulates and is regulated by the sensations of the whole system, preserving all the functions in their exact order and equilibrium. The stomach being weak all other parts equally suffer "*Languido ventriculo omnia languent*"; was an aphorism of an early physiologist who noticed the intimate association of the stomach and system. Located in the centre of the body it appears to be the seat of the vital principle from which as a point its influence is spread to every part of the body. Supporting the various organs and enabling them to exercise their functions. There is no other viscus not excepting the brain, but what may be injured very considerably without life being affected, but not the stomach; all injuries of it are exceedingly perilous and generally immediately fatal. An old physiologist

prognosis, moist skin soft pulse
subson of cerebral and nerve
spasm bleeding of the bowels &
but when black vom occurs with
sympneutics of the abdomen, death
will follow.

Diagnosis it most resembles the
inflammation of the small intestine
it is more likely to be confounded by
oedema of the brain, enquire into
the previous history of the case, if
known and the other symptoms arise
from the former it is an enteritis.

- ④ The serous coat very seldom, if ever becomes principally affected.
as it may originate in the peritoneum and
extend to the intestine.

who was much struck with the importance of this organ called it the 419
"Animal." By others it has been named the conscience, and has been considered the
very seat of the soul - It would be very easy to enlarge and multiply proofs on this
point; but enough has been said to shew that in all our pathologic inquiries
the importance of this organ should be constantly remembered - I am never
called to see a patient but what I ask myself what has the stomach to do with
the case - the first disease of this organ is

Gastritis or Inflammation the stomach.

This Cullen has considered ^{as} of two kinds Phlegmonous and Erythematic.
But I think it is serous or Mucous as one or other of its coats is the seat of
the affection. The difference between these does not I believe depend on the part af-
fected, whether the mucous or villous coat be affected the part inflamed - The
Erythematic inflammation has a peculiarity of action and is generally an atten-
dant on malignant fevers and on the action of poisons. having fully noticed it
as depending on fever when on that subject, I shall now pass it by and shall
consider at present the phlegmonous inflammation of the stomach - This is produced
by most of the usual causes of inflammation especially by cold, and cold drinks
by stimulating and acid poisons - matters introduced into the stomach, also by
External violence as blows or falls, and sometimes it is the consequence of misplaced
or Repelled Gout - Commencing in the mucous coat the peritoneal becomes invol-
ved - It is marked by acute pain about the praecordia, great soreness to the touch,
sense of heat, by excessive irritability of the stomach, and by copious vomiting,
great thirst; at an advanced stage there is great tension about the epigastric and
umbilical regions, great prostration of the system, the pulse is small, hard and con-
densed and quick but not very frequent, skin ^{cramp} dry. Unless checked it advances
very rapidly and with great aggravation of the symptoms; the patient cannot be
raised up without fainting, the extremities become cold, the skin damp, the eyes

The mother's countenance has the appearance of the white of an egg when the nose is irritated below, the tongue is white, milky, as has the epithelium removed.

Causes very various, changes of weather, miasmata, and infection, too abundant food, vitæ secretæ. The nose bleeds, face, eruption. When it exists in the mucosa or cilia the pulse is soft, and the pain over the tongue coated, in the muscle the spasm predominates. The pulse small and cord and when the peritoneum the pain is lancinating, these signs not uniformly to be trusted.

The stomach can be so inflamed as to run on to mortification and death without betraying a single symptom.

Gastritis may terminate in resolution, suppuration, abscess, gangrene, and delirium, particularly of pylorus - most frequently in gangrene.

Appts on dissections. The inner membrane red, appearance very various - streaks, or studded - inflam^y blush - extrav^m of coagulable lymph. These three most common - In malign^t fever, gangrene, &c. Dr. Yelloly of London - drops malifac^t cuts.

voids, the countenance thin and distreped, the pulse is feeble and can hardly be perceived, there is hicough and often a dark coloured discharge from the stomach similar to the black vomit of the yellow fever. There is low delirium and usually a distention of the abdomen with wind; these symptoms being the precursors of gangrene or shewing the actual existence of that state. occasionally there are certain anomalous symptoms known by the illusive sympathies. Thus I have known as a symptom of this disease a violent pain in the great toe similar to podagra. Dr. Physick has made a similar observation, this fact will serve to illustrate the pathology of the gout as I shall hereafter shew. Pain now and then appears in the groin, and lately Dr. Physick mentioned to me that in the yellow fever there was sometimes severe pain in the pecten duri of females, that this always indicated great danger, and that every case in which he noticed it the patient died in this fever, also in cases where poisons have been swallowed I have noticed another symptom, viz. a spasmodic rigidity of the muscles of the arms; a paralytic affection of one or both arms not unfrequently occurs. A paralysis of the arms is now a common symptom of inflammation of the stomach under other circumstances, It was remarked during the yellow fever in which this organ is chiefly affected, a more common symptom is an aversion to water, to light suddenly admitted, as in hydrophobic patients. Indeed all cases of spontaneous hydrophobia appears to have originated from an excessive and malignant inflammation of the stomach. It is also worthy of remark that the patient has sometimes all the symptoms of hydrophobia, that in consequence of a bite of a rabid animal the stomach becomes highly inflamed. Inflammation of the stomach may exist without any evident symptoms of gastric affection, it can only be confounded with Enteritis and Peritonitis. The Indications in the treatment of these inflammations are well marked. We have an active inflammation in a delicate organ which hastens rapidly to termination, It must be arrested therefore by the most powerful remedies, beyond doubt the most efficient of these is Bleeding, and in its employment we must not be deterred either by the pulse, the fever, or the prostration of the strength. If we do not deplete

422 down from the gallons & exam^d - the appearance of inflamⁿ was seen in the stomach, without any disease - General bluish of inflamⁿ. Vessels injected -

In a man who hung himself in this city the same thing was seen by Dr. Lawrence who exam^d him - extent of symptoms

In Genuine inflamⁿ we have a thickening of the coats, ulceration, may be found - Coagulable lymph effused, &c.

More redness & injected vessels will not warrant your saying that a man died of inflamⁿ of the stomach.

⑥ Lime water and milk, Anodyne enemata.

fully we inevitably loose our patient - When called early we should take 3xx. 423
or 3xxx. from a patient of tolerable robust constitution, and it is often necessary in
a few hours to repeat it to the same extent. This fact I wish to impress upon your
minds, that you must bleed promptly and copiously. You will find in writers es-
pecially the Europeans, small and repeated bleedings advised, nothing can be
more pernicious than such a practice. You must bleed boldly and in large quan-
tities if you wish to be successful, the pulse and the fever are no guides; Even in
Edinburgh where they are no great friends to V. S. I have known in which they
deplete freely. In one particularly I remember 3200. were taken in a simple in-
flammation of this organ. The fact is these cases are apt to deceive us, there are pres-
ent so few of the symptoms of ordinary inflammation that we are liable to be imposed
upon and to confide in remedies inoperative and ineffectual, hence it is that I
press upon you the necessity of early, copious, and ample evacuations by the Lan-
cet - It is a peculiarity of the stomach that in proportion to the violence of its in-
flammation the general system is depressed and there is very seldom much fever;
As you bleed the powers of the system will be displayed and the inflammatory
nature of the case become more developed. The necessity of V. S. notwithstanding the
depressed state of the system in these cases was first pointed out by Sydenham
and insisted on so fully by the late Dr. Rush. Topical bleeding by Leeches and
Cups. next Blisters - as the stomach is the inflamed part it is manifest that
they should be applied directly to the Epigastric region, and always remember to
apply them large enough to obtain their full powers. among the errors of medical
practice, there is none more prominent than the practice of applying small blisters.
Large ones are much more efficacious and do not produce more pain or trouble.

As auxiliaries we may resort to fomentations of the abdomen, viz, hot Corn
Musk, by hot bottles or bricks, by clothes wrung out of hot water or from Spirit-
uous Liquors.[©] Owing to the irritability of the stomach we are in a great measure
prevented from using internal remedies. It is of great importance however to open

the bowels and this may sometimes be done by emollient injections, which 425
should be of the mildest character; as they act by distending the bowels they sho-
ould be large, a pint or a pint and a half of water with the addition of a little
castor oil or molasses may be injected at a time. As they are also intended as
fomentations they should be largely administered every 2 or 3 hours, as soon as
the stomach will bear it castor oil or Calomel should be given with the view of
their laxative effects. I prefer the last viz the Cal: it is better retained and as
it can be given in pills it is far less offensive. As among the peculiarities of its oper-
ation is that when given in an inflamed state of the stomach and intestines, it does
not aggravate the action of the vessels; I do not know that it does diminish action, at
any rate it is the least irritating and often may be given when all others are rejected.
When given in the form of pill it is generally more readily retained by the stomach.
There is another Laxative of great utility in these cases, viz. The Epsom Salt. of
all the saline medicines this is the least irritating to the stomach, it is very fre-
quently retained when all others are rejected. This I have especially known
in the Cholera mortus of children; it generally remains on the stomach and is often
useful in checking vomiting by establishing the natural action downwards. To calm
the irritation of the stomach it is proper to resort to casual remedies for that purpose.
The best is the Lime water & milk. In some cases anodyne injections are resorted
to with singular success, they abate pain and irritation, and compose the system.
Exactly at this conjuncture the warm bath will be found advantageous; there
can be no doubt of its utility; it excites perspiration, calms the irritability
of the stomach and of the system, and gives a centrifugal force to the diseased ac-
tion of the vessels; I have seen all these advantages gained by the bath. The com-
mon practice of exhibiting large quantities of demulcent drinks is very pern-
icious, they offend the stomach and keep up sickness and vomiting. It is absurd to
suppose that they can abate inflammation or sheath the stomach: what effect
in this way can be supposed by large quantities of mucilage of Gum arabic, Flax-
seed &c.

② Above all seltzer water.

I think it should be a rule to administer as little drink as possible. The thirst 427
which is often very great is much more effectually moderated by a teaspoonful
of fluid than by copious draughts. I prefer for this purpose the toast and water, the
Mint Tea &c. when symptoms of gangrene appear our reliance is to be placed chief-
ly on opium and Calomel. Among the valuable properties of this article, is undou-
btedly that of obviating the tendency to gangrene. It is not only here, but in all the
cases of inflammation likely to terminate in mortification, that it displays
its powers. This opinion has long existed and been generally received, especially
as related to gastritis and Enteritis. I have seen it again and again exemplified.
But it is only to be employed at this particular juncture, when the inflam-
mation is about to be converted into gangrene. If this fail we have another remedy.
It is the Spts. of Turpentine; early in the yellow fever it was recommended, main-
ly with a view of allaying vomiting, but taught by observing its effects, we now
extend its employment. In the case before us it is of great advantage. Sing-
ular as it may appear, you may rely upon it in the early stage of gangrene, or
rather at the point where the inflammation is about to run into gangrene, the
Spts of Turpentine is a most important remedy. After all much confid-
ence is not to be placed in any thing but the Lancet and Blisters. Bleeding must
be early and copiously resorted to, and in no case is to be employed more copio-
usly than in this. Regardless of the contraindications bleed till the symptoms
have abated, when apply a very large Blister over the Epigastric and in 999
cases in 1000 you will be successful. —

④ They all primarily affect the nerves - The mucous coat is affected.

Besides opium - others -

Some cause death without increasing vascular action, or inducing

Congestion, &c. These are the Præparic acid - Laurus Cerasus,

Belladonna, &c.

Inflammation of the Stomach from Poisons.

The articles which act detrimentally on the stomach are exceedingly numerous & diversified. The term poison is indeed to be considered relatively to the nature & quantity of the article taken in and the condition of the individual when taken.

What is most nutritious and beneficial when taken in proper quantities and at proper times, may when improperly employed prove exceedingly hurtful. It was among the earliest maxims of the medical schools. "That all poisons in small doses are medicines, and that all medicines in large doses are poisons." The *Materia Medica* always abounds with articles illustrative of this aphorism.

Poisons have been variously arranged according to their action on the stomach, but as regards all poisons of practical utility, the great division into Narcotics and Corrosives will answer very well. Of the first class Opium is that from which injurious effects most usually occur. It is often taken to a dangerous extent either with a view to commit suicide, or accidentally. Called to such a case it is our duty to endeavour to excite vomiting, and for this purpose the most active measures should be employed. Of the Emetics the best is a combination of Tart. Emet. and Specacuanha, or Sulph. Zinc. under such circumstances the dose should be large. The advantage of combining the two former medicines together is that their operation will be more perfect and effectual. The Sulph. of Zinc in some instances has been of advantage, and may be given alone. One of the peculiarities of the case before us is, that little success will result unless the quantity administered be large, From grs. vj. to grs. viij. of Tart. Emet. combined with grs. xxx. or grs. xl. of Specac. will not be too large a dose.

From grs. xxx. to grs. lx. of Sulph. of Zinc. may be given for a dose at once: The dose is to be repeated at the end of 15 minutes if in that time no effect is produced. But so torpid is the stomach that the quantity just mentioned sometimes fails. Cases now and then occur in which there is so total a loss of sensibility that

430 ① Colds under such circumstances applied to the head, will often awaken ^{the} susceptibility of the stomach & they will vomit - arouse them often in this way from stupor - a case related as occurred to Dr. Jackson -

I once gave ℥i of Tart: Emet: in the form of Clyster, with success -

② Strong coffee -

no effect will be produced by any Emetics. ① It occasionally happens under such cir. 431
circumstances, that mechanical distention of the stomach with tepid water, will pro-
duce the desired effect; to obtain the end required large quantities as from 2 to 3 qu-
arts should be employed. Cataplasms of Tobacco, over the Epigastric reg-
ion are among the most effectual means of exciting vomiting. When however there
is great prostration of strength tobacco is inadmissible; I have seen this means
succeed when all others had failed. The proper method of preparing them is to
soak a bundle of the leaves in vinegar and apply them to the breast. When these fail
mechanical irritation to the fauces with a feather will prove of great advantage in
many cases; all other means having proved abortive, it is proper to resort to the instrument
invented by Dr. Physick which will be shewn you in another place, indeed it will
be proper in all cases when we can obtain the instrument to pump out the poison
as soon as called. In most cases though the contents of the stomach have been ev-
acuated, yet the influence of the article still remains. The first effect of a large dose
of opium is an irresistible tendency to sleep accompanied with stupor & stertorous
respiration. In this case it is usual to keep the patient in motion and to agi-
tate him by shaking and other means. I have seen this practice resorted to in
more instances than one without effect of the slightest advantage. It is however
advisable to counteract the effect of opium by sinapisms to the extremities, and
by the administration of the most stimulating glysters frequently repeated. It
is highly probable that when the disposition to sleep is very strong much advantage
may be gained by severe castigation.

The fact is already clearly shewn and demonstrated by Boerhaave that if a
large quantity of opium be given to a dog, (an animal very sensible to the operation of
medicine) as soon as the effects begin to shew themselves, if the dog be severely wh-
ipped the usual consequences of a large quantity will not be produced. To coun-
teract the operation of this poison the vegetable acids have been recommended
but I do not consider them as of any advantage. I have seen vinegar given with-
out

432 ① It forms acetate of morphia - improper -

② Cold applications to the head.

1st Evacuate the stomach - then vegetable acids, coffee &c -
after this we support the system by stimulating rubefacients,
Blistering, Liniments, &c.

③ Recently recommended by Orfila - The best is brandy & water given ^{freely}

④ When drunkenness is induced to an alarming degree by spirituous Liquors, the Treatment is very much the same as when opium has been swallowed -

When the stomach is out of order give Tr. of Cloves, &c.

any effect. ¹ by far the most beneficial remedy under such circumstances above 433
mentioned is the rob: alk. given in the form of the rob: Sulep a ag. ammon:

This may be considered as an antidote to Opium. I have seen cases with all the
unpleasant effects of this article, subdued immediately by the administration
of the rob: alk: ² after all however a highly inflammatory or rather congestive
character after takes place marked by great determination to the brain and much
difficulty of respiration - The case however is to be treated on the general principles ap-
plicable to similar affections occurring from other causes. In one point however it
is distinguished from its kindred affections; the fever produced by opium &
other narcotics will not bear depletion, and especially by the lancet to the same
extent, and early demands the use of cordial and stimulating medicines. With
one exception the treatment already detailed is applicable to all the vegetable
poisons. the exception to which I allude is Digitalis and its kindred articles as
tobacco, Spigelia marilandica, Saurer & Belladonna. as regards Digitalis
more particularly, I believe it will always be found the most advantageous to meet
it with the early administration of a cordial and stimulating medicines after the
stomach has been evacuated; of these the best is strong Brandy & water. coopera-
ting with this, stimulating applications to the surface. Brandy, rob: alk:, Ether,
Spirits Serpentine ⁴ used internally; and on the authority of Bed does opium
may be used administered. ⁵ Curious as it may seem, nevertheless it is well establ-
ished that opium though allied in some of its properties to digitalis, yet it is am-
ong the best remedies for the debility arising from the use of digitalis.

Having now finished what I have to say on the management of Vegetable poisons,
illustrated more particularly by the case of opium; I now proceed to describe the treat-
ment which is appropriate to the Mineral poisons. Much has been written on
the modes of operation on these articles and on the best means of detecting their exis-
tence in the stomach, but as these do not come under my department I shall entirely
omit them, and refer you to the professor of chemistry who will repeat to every day

③ Enemeta

⑤ Symptoms. great thirst, metallic taste, burning and constriction of throat, anxiety, lancinating pains in the stomach, nausea & vomiting, at first of the ordinary contents of the stomach, then black matter, sometimes blood. The pulse small & quick.

Tin. Antidotes the same as for Corrosive Sublimate

necessary instruction on this subject. My present duty is to lay before you the best means of preventing or curing the morbid effects of these corrosive poisons.

Much that I should otherwise say has been anticipated by what was detailed to you relative to the treatment of vegetable poisons - differing as they do in their mode of action, the management of one set is very analagous to that of the other -

Emetics and other means of exciting vomiting are equally demanded in both cases. Called to a patient who has swallowed a Mineral poison, we are to excite vomiting by an Emetic. The best is Tart: Emet: and Specac^a combined, dose large and repeated - by tickling the fauces, by distention of the stomach ^{by warm water,} and by tobacco Cataplasms to the Epigastric region³. But there is this difference in the cases, that in the case of mineral poisons we can recur with more confidence to Antidotes or to those articles which are calculated to decompose or neutralize the substance, and thus destroy its activity - Much attention has been paid to this subject by some of the most eminent men our science can boast of. Enquiries especially in France were carried to an inconceivable extent and appears to have been conducted with great care and fidelity - the result of all that has been accomplished on the subject, I will now communicate to you, at least as regards those poisons, the effects of which we most commonly experienced. 1st with respect to Corrosive Sublimate⁵. The best Antidote is Albumen; this readily decomposes the salt and converts it into a mass almost entirely inert. the practical direction from the fact just stated is that when you are consulted in a case of disease arising from swallowing corrosive sublimate in too large a quantity, you are to employ the white of Eggs beat up in water - Experiments in great numbers go to shew that when this preparation of mercury has been swallowed the white of eggs, or milk has been administered immediately afterwards, no injurious effects have resulted from the poison, but to be effectual they must be liberally employed. 2nd As antidote to the preparations of Copper (as the Acetate, or Sulphate, &c.) Sugar, Syrup,

③ New milk is also the best antidote for Muriate of Tin

④ Lead known by a sweetish, astringent taste.

⑤ Violent vomiting, &c.

or Molasses or any other saccharine article, has been found to be very effectual: extraordinary as it may appear there cannot be the slightest doubt of the fact, which is supported by the testimony of the most distinguished men. The saccharine matter immediately relieves the pain arising from the poison and soon after purges actively, thus throwing the offending matter out of the system - but to be effectual it is necessary that large quantities should be given. On the whole it is said that Sugar dissolved in water is the best mode of administering it. But it is found that independent of its cathartic action, it operates on preparations of copper and chemically decomposes them and relieves the patient, of his imminent danger - 3^d By the same experiments it was found that new milk is the best ~~best~~ Antidote or corrective for the preparations of Zinc ③ By chemically acting on it. It alters its composition and prevents the bad consequences, but as in the preceding ~~consequences~~ cases the patient must take it freely, and take as much as his stomach will contain. 4th The Muriate of Soda given in solution and drank freely renders the nitrate of silver completely harmless - 5th Either the Sulph: of Soda or the Sulph: of Magnesia. has been proved to be antidote to any of the preparations of Barytes or Lead ④ By the effects resulting in some instances from Lead, practitioners have become timid of its employment.

I recently told you that in hemorrhages little advantage has been derived as a medicine in consequence of the dose in which it was administered; but being at present in possession of an antidote we shall be warranted in employing it on a larger scale than formerly. 6th It has been ascertained that Sart: Emet: or any of the antimonial pptns ⑤ are neutralised and their effects restrained or prevented by any of the vegetables astringents. The best of these are the infusion of Bark or Galls or the common Green Tea, ^{or tea} which is employed at our tables, but though these are to a certain extent antidotes to the Ant^l pptns: yet their effect is not so striking as that of some of the preceding articles. They are however sufficiently so to warrant our using them in all cases where the Ant^l remedies from the

No antidotes are found for Bismuth, Zinc, Nitre, Arsenic,
Phosphorus, muriate of Ammonia -

Treat: Vomiting - Bleeding - Cups over the stomach -
Blistering, &c.

Mr. Hume recommends the following mixture where arsenic has
been taken. Rp. Carb: mag ʒi

Water - ʒx.

tincture of opium - ʒi.

Compd tinct: of Lavender - ʒij

Loaf sugar - ʒss.

every 10 or 15 minutes.

Dose 2 table spoon fulls

quantity taken threatens serious consequences. 7th When the acids have been⁴³⁹
taken too largely particularly the mineral acids calcined magnesi. is by far
the best corrective, but it should be early resorted to, and employed in large doses.

8th As an Antidote to the Alkalies, acetic acid or strong vinegar is the best.
as yet no corrective has been discovered for Arsenic. Within a few years we have
been confidently assured by a physician of Bourdeaux of the name of Bertrand that
he has ascertained by a course of decisive experiments that charcoal is endowed
with this valuable property; he even went so far as to aver, that after experiments on
brute animals he actually took a large dose himself, viz. grs. v. and found that the
effect was completely prevented by charcoal, after these experiments had been given
to the world they were repeated by a committee appointed for the purpose by the
national institute of France and were found entirely erroneous; Charcoal not hav-
ing the effect attributed to it. I wish you to recollect this particularly, because
the account of Bertrand from its interesting nature has been published in all the
Journals and new-papers in Europe and the U. States. You are therefore to be
on your guard against those misrepresentations as no confidence at all can
be placed in them. Whether any part of the statement made to you is to be implicit-
ly relied on, I will not undertake to say, they come to us on the highest authority.
The experiments were generally made by Orfila and repeated by a committee
of the national institute appropriated for the purpose of investigating their ac-
curacy. but such experiments should always be received with doubt and
hesitation. Certainly I would not myself and therefore do not advise you to refer
to the Antidotes until you have made a fair trial of Emetics. After the stomach
has been completely and properly evacuated, the antidotes may then most prop-
erly be employed with advantage. They neutralize or correct the remnant of poison
which may be left behind by the Emetic. To discover the Antidote for Arsenic is
greatly to be desired. Even where copious vomiting has been induced, the re-
moval of the whole of the article is not often accomplished. Spicula a small por-
tion

⑥ libbally both by the mouth and rectum - frictions, &c.

I never met with a case of poison from arsenic which terminated before the 3rd day.

of the poison adheres with great firmness to the coats of the stomach and 441
cannot be disengaged. All that we can do in such cases is to administer large
doses of demulcent drinks as Barley water, Flax seed Tea, or the Mucil:
of Gum Arabic will answer very well, they act most probably by entangling
the specula and prevent them from irritating the stomach. Most commonly in
the cases of poisons from arsenic oily matters are poured down the throat in
large quantities either olive oil, Butter or Lard; but they do mischief instead
of good. Experiments have satisfied every practitioner that oil of every kind has
a tendency to increase the powers of arsenic and almost always aggravates the
effects. Notwithstanding all our efforts the most serious consequences occasion-
ally result: as I before mentioned inflamⁿ of the stomach is produced and with
it a kind of fever precisely like that observed in yellow fever. What I have said
on that Epidemic is also applicable to the case under consideration —

The Indication is to allay inflamⁿ of the stomach, this is best accomplished
by V. Section. Co-operating with this remedy large Blisters over that organ will
prove very advantageous; all the means of calming irritation of the stomach
are also to be employed in this case. but when the system is fully under the effects
of the poison, the energy of the vital part is so depressed, that the patient ultim-
ately sinks, when this treatment will not answer. Among the distressing symptoms
there is ^{burning at the pit of the stomach, contraction of the throat.} violent vomiting, low delirium, dim, and perverted vision, Nervous
tremors, Strangury, palpitations, cold sweats, pulse sometimes very slow, but
more generally quick and tremulous, and the whole displays an indescribable ap-
pearance of horror and wretchedness. What is now to be done? To the general treat-
ment already laid down, I have nothing more to add. To cure will be hopeless if the
Arsenic is still in the stomach; but if the system only labours under the effects
of the poison after it has been evacuated, we may recur to the Spts. Serebinth^l.
I have never seen it used in this particular affection, and my opinion of its u-
tility is founded on speculative grounds altogether —

③ pointing of the lips.

④ Strong coffee.

cold water, especially to the head.

Fever in Drunkards - V. S. & other evacuants are not
so ^{to} ~~soon~~ with the same degree -

⑤ Caused sometimes by withdrawing the ordinary quantity of
drink -

Inordinate use of Strong drinks.

When the system is prostrated by ardent spirits it most commonly reacts; but it is best to apply cold by pumping water over the patient; and to evacuate the stomach. Sometime a disposition to apoplexy is brought on, there is a stertorous breathing, slow full pulse, pulsating of the temporal arteries, &c. Here we must distinguish between this and common apoplexy, we must examine the breath and enquire into the history of the case. In apoplexy from this cause we must resort to local bleeding, and purging. The fever induced by excessive stimulants is to be treated like that produced by opium; moderate depletion, when the pulse is full, hard and active, and then have early recourse to cordials & stimulants.

Opium an excellent counteragent
also Cabbage

Mania a Potu.

This disease is generally found among confirmed drunkards. Generally two or three ^{days before it} makes its attack, ^{after a debauch} and it is ushered in by a curious and peculiar aspect of the countenance, eyes rolling, ^{red} face turned and suffused, violent headache, pulsation of the carotids, skin hot, tongue parched, pulse very full, in the early stage there is considerable gastric disorder, violent vomiting, great thirst, bowels constipated: as the disease advances, nervous tremors occur, nearly loses the power of using his limbs, he falls in attempting to rise; sometimes paroxysms of strength occur, so that it requires several persons to manage him, this though, does not last long, but are succeeded by convulsions, ^{and great prostration of strength} The mind now becomes exceedingly disturbed, he expresses incoherent sentences, and sometimes vociferates loudly; he is haunted with false spectacles continually presenting themselves to his imagination, he attempts to make his escape by leaping out of the window, he is fearful that the walls of the building will fall upon him, secludes him-
Self

③ neutral mixture with Laudanum -

④ several douching.

5 Has a "line qua non" to recovery.

Opium and Camphor the best.

If a patient begins to purge in mania apote you may lay it down as a general rule, that he will die —

Sensibility being awakened all is gained from Emetics - then we must resort to Stimulants.

The indiscriminate employment of Emetics are very dangerous -

in the corner of the room or under the bed, &c.

on Dissection ^{the stomach highly inflamed;} we find, Schiurus, abscess, &c. ^{of the Liver} the Brain presents marks of disease, I have seen it inflamed, congested, ^{serous effusions,} and extravasation of blood.

The thoracic viscera are not much affected; water is generally found in the chest, as mostly is in the thorax of drinking persons, dropsy of the pericardium, &c.

Treatment. The first thing to be done is to quiet irritability of the stomach, for which purpose we resort to the effervescent draught, ³ Seltzer water, Brandy and water or Toddy and Laud: after this we must give camphor Tinct. opii. aa ℥j. with Brandy to ddy in 24. When insusceptibility exists give Emetics.

The Tart. Ant. in large doses of grs x, xx, or xxx, is best. If Speac. is used the dose should be very large. The patient should be placed in a dark room and in a state of complete rest, so that he may sleep. After he wakes continue the same stimulating treatment and a rich diet. Even when the patient is considered out of danger, he is in a very distressing state, he has nervous tremors, &c. we must still continue in this case the stimulating plan of treatment; viz. the opium and such like articles, also the hop tea. Depletion by V. S. is very rarely demanded, but when the pulse is full, hard and tense, we may bleed in small quantities. When undue determination to the head exists, Local depletion by means of cups, Blisters, &c. may be resorted to but the practice is dangerous and should be cautiously employed.

Emetics and Cathartics or stimulating injections to evacuate the alimentary canal are generally sufficient. This practice of treating Mania a potu is sanctioned by the opinion of the practitioners of this city. Dr. Klapp of the Alms-house recommends to treat it entirely by Emetics. But this will not suffice, the patient will sink unless he be supported by stimulants and a generous diet. Besides in cases where there is great prostration of strength, as in old drunkards, the patient will never recover from the operation of an Emetic. The system has not the power of reacting. Dr. Klapp's practice is to be limited to awaking the susceptibility of the system.

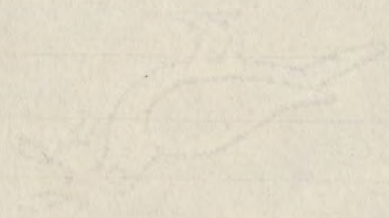
446 ① The Typhoid state is known by the dry, encrusted tongue, hot skin, suffused countenance, wild eye, contracted pupils, nervous tremors, subsultus tendinum, low muttering delirium, &c.

Hoffman's anodyne liquor - Carbonate of ammonia.

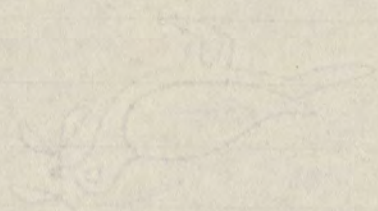
When it becomes Typhoid give Aether, opium, Camphor, vol: alk 447
Musk Sulep, aq. Solut: of Asafetida, Soup, Oysters, Sellies with Spices,
Cayenne pepper, and on recovery Malt Liquors, when morbid vigilance hap-
pens give Tr. Hops, at night, which is the best article given in the dose of $\frac{3}{4}$ ss.

Carbonate of Am

In Concluding Gentlemen, I must enforce upon you the importance of treat-
ing them with mildness and humanity, probably they may have seen brighter
days and happier fortunes, at one time ranked among the sons of genius, but
by Misfortune Levelled to the degraded Situation of an inhabitant of a poor
house —



THE END
VOLUME 2



INDEX.

463

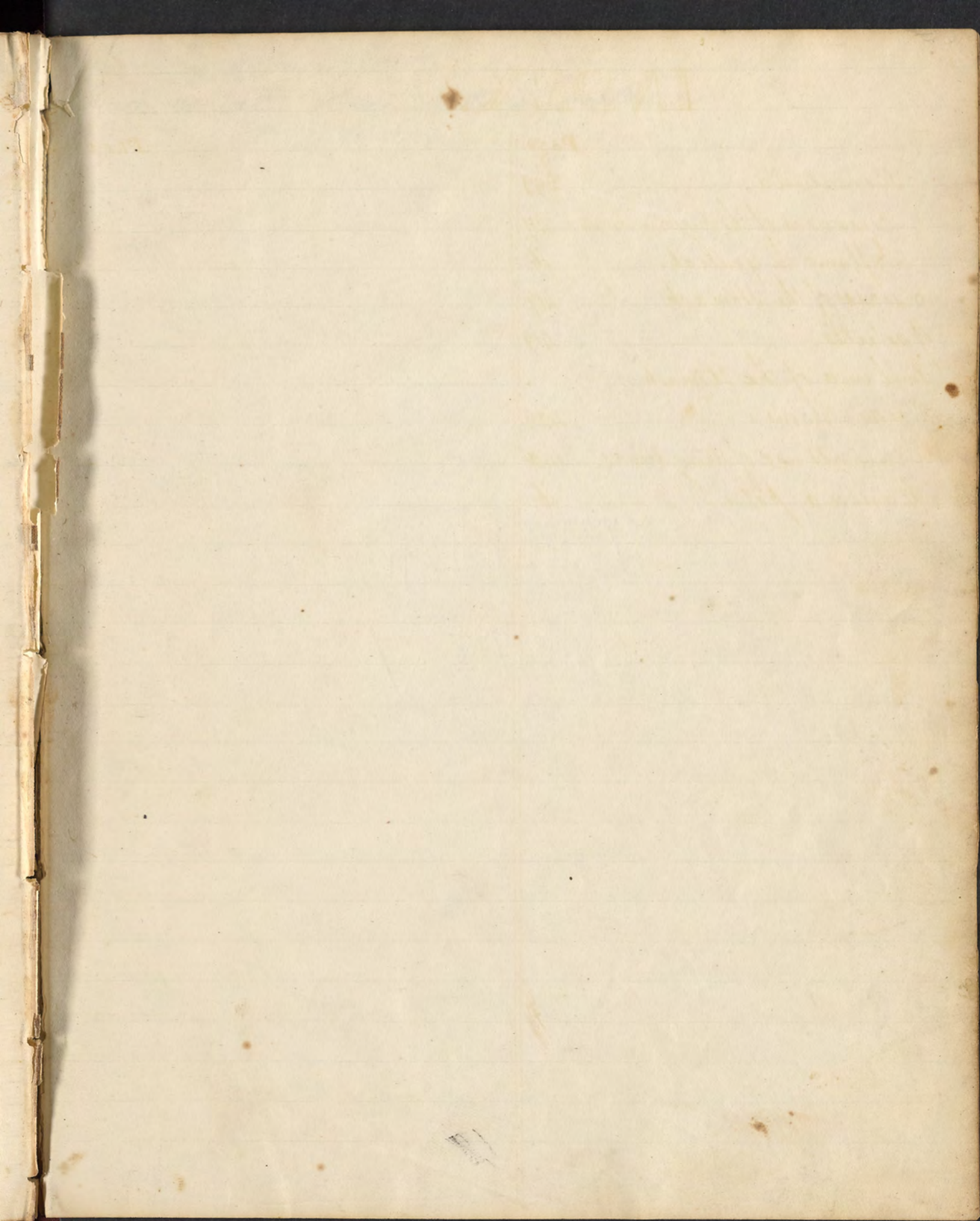
	Page.		Page.
Physiology - - - - -	5	Extremities - - - - -	153
Generation - - - - -	5	Senses - - - - -	ib.
Digestion - - - - -	27	Blood - - - - -	157
Respiration - - - - -	45	Secretions & Excretions - - -	161
Circulation - - - - -	55	Practice of Physic - - - - -	167
Nutrition & secretion - - -	65	Classification of Diseases - - -	169
Pathology - - - - -	75	Circulatory System - - - - -	173
Causes of diseases - - - -	ib.	Fevers - - - - -	ib.
Temperaments - - - - -	77	Intermittent fever - - - - -	175
Heat & Cold - - - - -	83	Treatment - - - - -	181
Exhalation - - - - -	95	Remittent fevers - - - - -	215
Epidemics - - - - -	103	Continued fevers - - - - -	223
Dress - - - - -	109	Typhus fever - - - - -	251
Diet - - - - -	113	Winter Epidemic - - - - -	287
Drinks - - - - -	119	Treatment - - - - -	295
Sleep & watching - - - - -	121	Yellow fever - - - - -	301
Retention & Excretion - - -	123	Pestus or Plague - - - - -	321
Passions - - - - -	125	Hectic fever - - - - -	333
venereal appetite &c. - - -	131	Hemorrhages - - - - -	343
Medical Physiognomy - - -	133	Hemoptysis - - - - -	351
Pulse - - - - -	ib.	Hematemesis - - - - -	375
Countenances - - - - -	147	Melana - - - - -	377
Tongue - - - - -	149	Epistaxis - - - - -	ib.
Teeth. Respiration - - - -	151	uterine hemorrhage - - - - -	383
Decubitus a Position - - -	ib.	Hemorrhoids or Piles - - - -	395

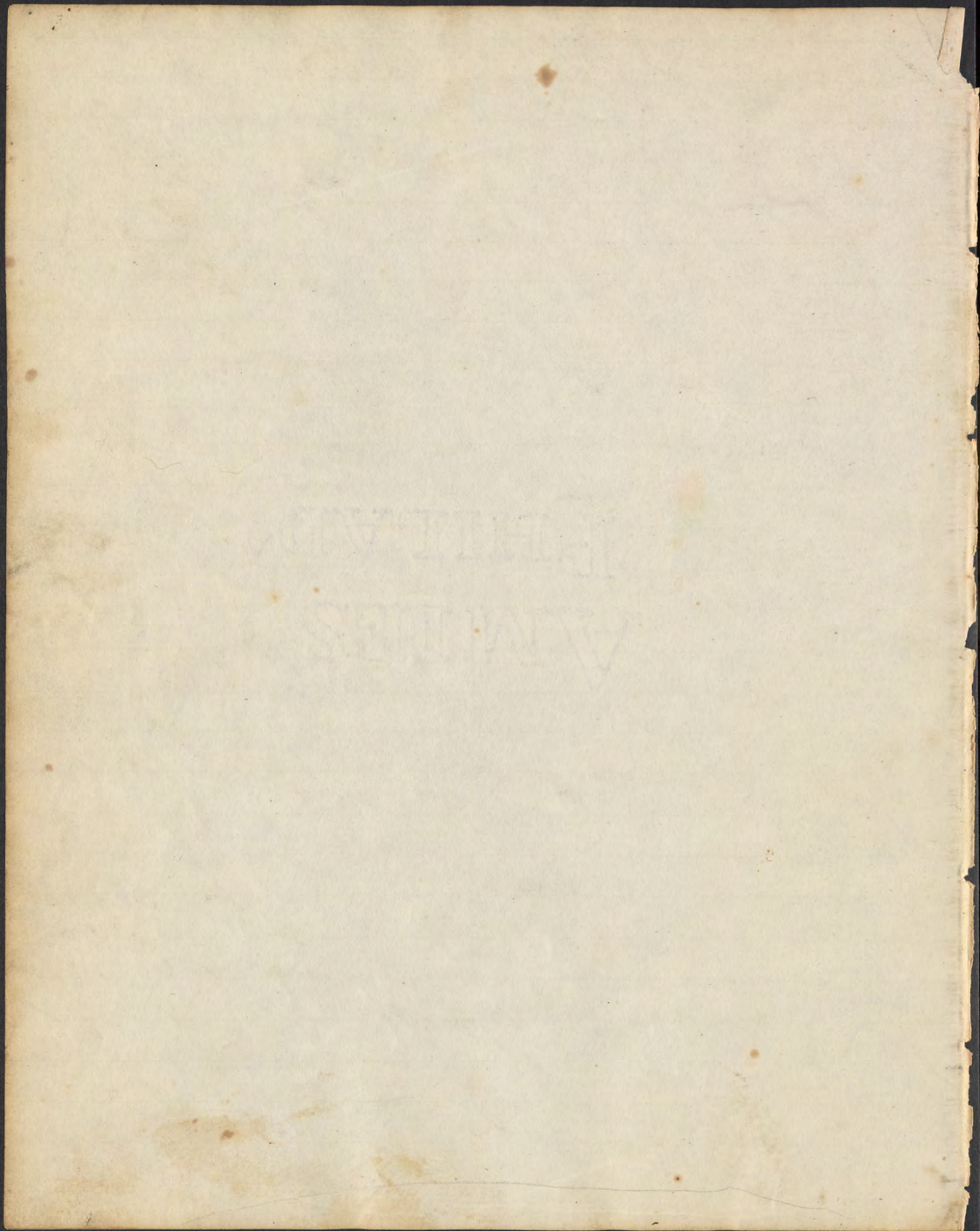
INDEX.

Page.

Page.

Hematuria.	399
Diseases of the Digestive System.	401
Inflama in Gen. ab.	ib.
Diseases of the Stomach.	417
Gastritis.	419
Inflama of the Stomach from Poisons.	429.
Inordinate use of strong drinks.	443
Mania a potu.	ib.






Foid or oid when used in medicine

Benjamin Franklin
Dr. Belmer Washington

Wm. Hartman
West Chester
Pa

F. P. McLellan
N. W. Corner 8th & Chestnut
 Mrs. Brown.

